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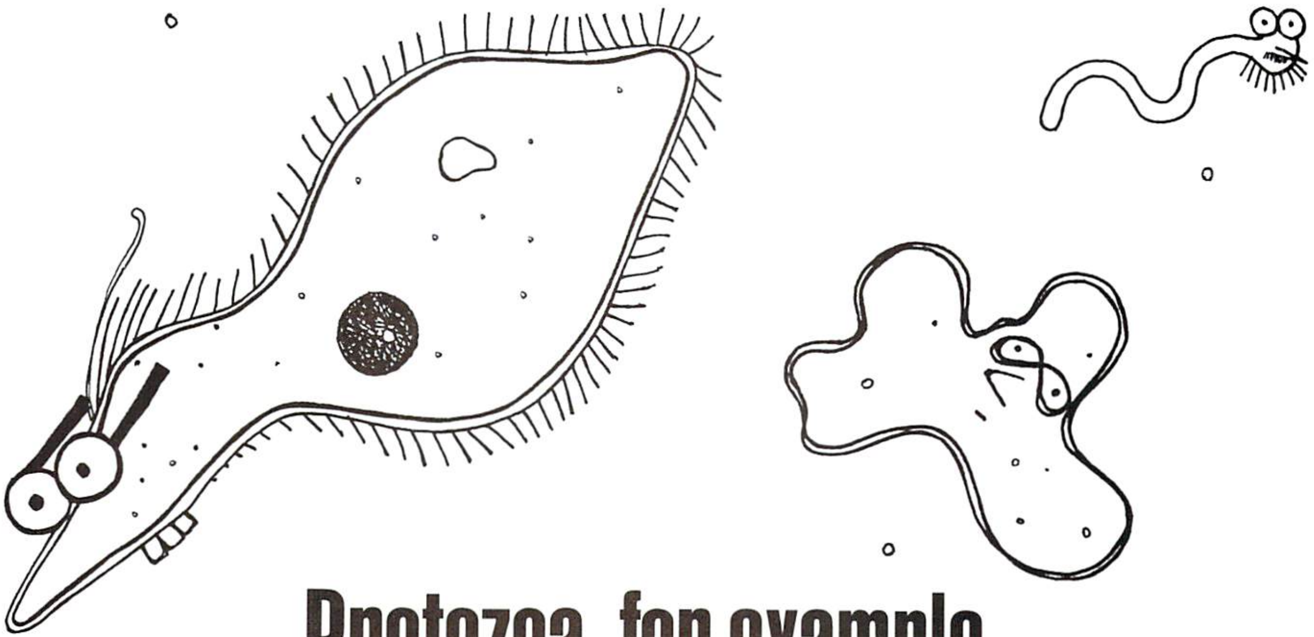
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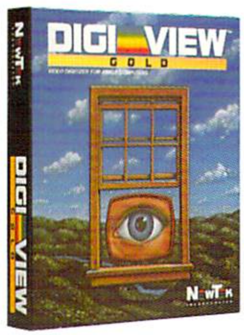
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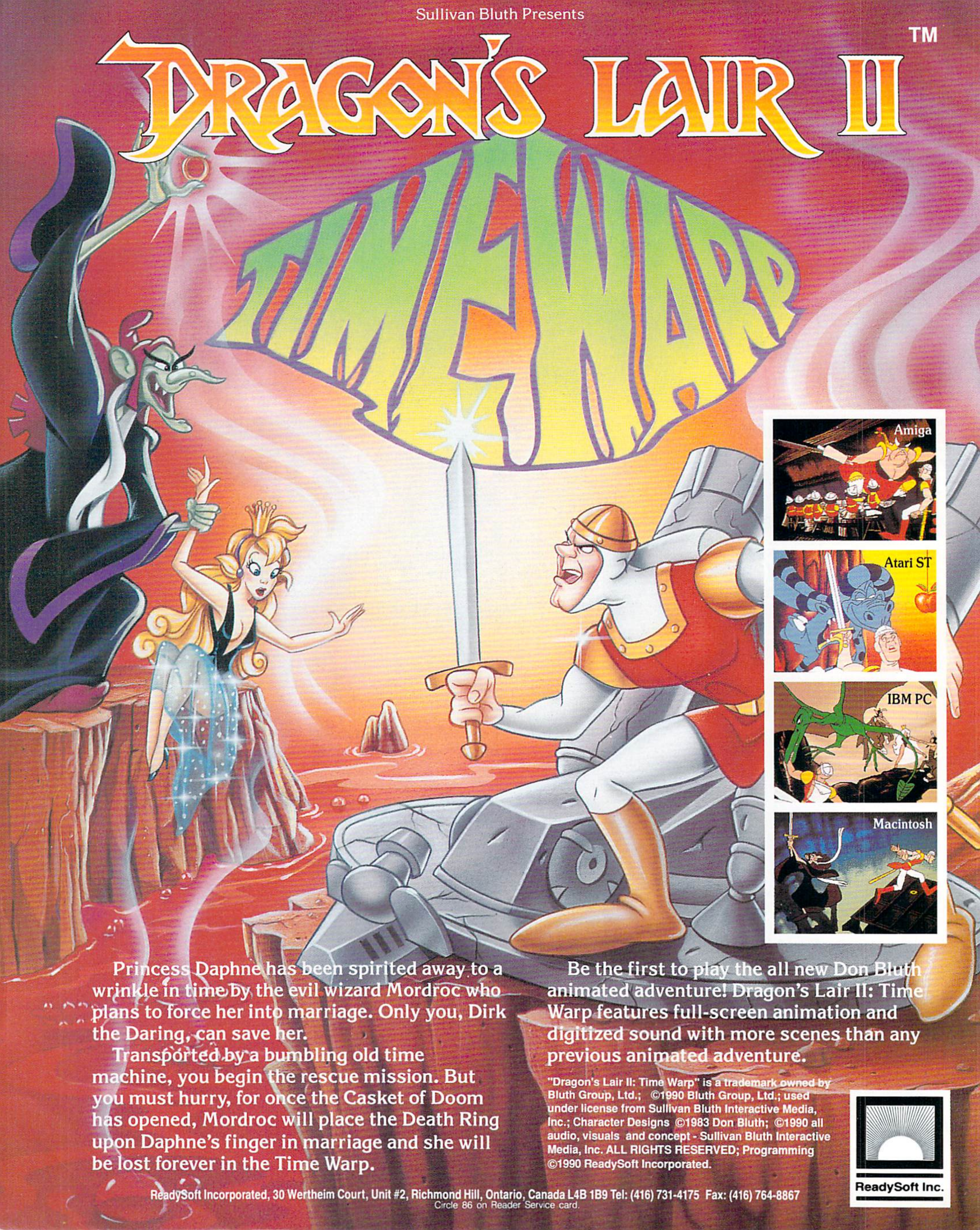
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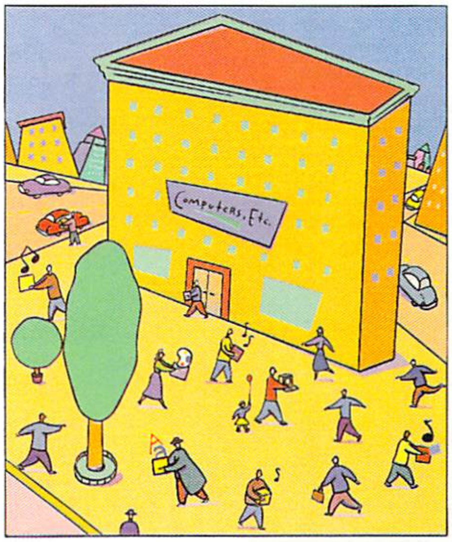
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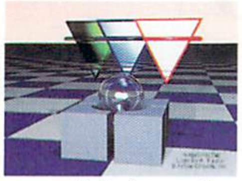
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DEPARTMENTS

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COVER PHOTOGRAPH BY ED JUDICE









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Chief Concerns

Amiga is alive and well and flourishing in Britain, and so is CDTV.

IN SEPTEMBER I went to jolly old England—London, to be exact—in search of CDTV applications in progress. I found a whole bunch, but more importantly, I found a country where the Amiga is respected and enjoyed.

It's a strange situation, really. Over here the Amiga is often shunned as a "game" machine. People are ashamed of its great games. Every month we get letters from readers pleading with us to dump game coverage. They say it doesn't belong in a "professional" magazine.

Fact is, we get just as many letters begging for *more* games, and for quicker turnaround on the reviews we do. If people like games, we'll cover them. And if games help sell the Amiga, I'm all for it.

While we're relatively open-minded, Commodore continues to stress the machine's professional uses, over its pure entertainment value. It's not a bad strategy, but it hasn't totally worked. Maybe the new U.S. mass-market push will open some eyes to the machine's purely fun side and give the pro side a boost in the process.

Across the Atlantic, the machine is actually revered as a "game" machine. Many users buy Amiga 500s to play The Killing Game Show, and then graduate to video and animation applications. This strategy works. By year's end, there are expected to be half a million Amigas in the U.K.

Ride the "tube," the London subway system. You'll see people reading Amiga magazines. Eavesdrop on your fellow diners in a fancy restaurant. You'll catch some of them talking about their Amigas. Or drop by a local computer store. Amigas are in the window.

In the U.K., people take their games very seriously. Nintendo is not the force it is in the U.S., because the English don't take kindly to wimpy, proprietary game machines. They have taste. They have Amigas.

Developers in the U.K. are no slouches, either, working to push the game envelope wherever possible. It is therefore no surprise that the U.K. houses some of the most committed, energetic, and slightly crazed CDTV developers in the world. All of them may not be games, but the applications I saw were a real blast.

The U.K. believes in CDTV. Users are ready. Vendors are ready. The only thing that isn't quite ready is the software, and, as of press time, the box.

It didn't take long to find this stuff. As soon as the plane slapped the tarmac (at six in the morning) I was off, blearily visiting CDTV software authors. These cats are cranking, and expect to make big pounds in the Amiga and CDTV markets. They have confidence, having picked a couple of truly hot systems. Compare this to the struggles some of our vendors face, and you begin to long for the land of fish & chips.

After a fair night's sleep, I hit the Computer Entertainment Show. Who was one of the biggest stars? Right you are. It was Commodore, which manned one of the most impressive booths I have ever seen. Everywhere you walked in Commodore's broad expanse, there were joysticks and keyboards with Amiga games already loaded. Reports in the British press suggest that the booth cost nearly $400,000. They do trade shows right.

In the meantime, we continue here to fight the stigma of "game" machine, and the attitude that says if it isn't a PC or Mac, it isn't a real computer.

I'm not ready to turn Limey. I want to keep driving on the right and spelling the word color without any extra letters. And I like my bland American accent. But I sure would like to import some of the U.K.'s attitude toward Amigas.

Tech Update: As you may have read last month, we are launching *The AmigaWorld Tech Journal* this coming March. It is an exciting integration of disk and paper, and is sure to satisfy Amiga aficionados everywhere. It is also going to take a lot of work. In order to get this bear out the door, we've made a series of promotions. Linda Barrett Laflamme will be Editor of the Journal, but will maintain responsibility for game and programming coverage in *AmigaWorld*. If you like the articles in *AmigaWorld*, you can thank Linda, because she assigns them, helps edit them, and seems to come up with at least half of the ideas. If you don't like the articles, then you're a candidate for our money-back guarantee. Plus you can always blame me.

Barbara Gefvert, our sturdy Review Editor has become Senior Editor, and will be in charge of article acquisitions. Perceptive readers will have figured out that Barbara is replacing Linda.

Then, needing someone to replace Barbara, we tapped Janine Jackson, our feisty New Products maven, who will now take over as Review Editor.

All of these people have done an excellent job at *AmigaWorld* over the past several years, and I'm sure they will be equal to the new challenges ahead. ■



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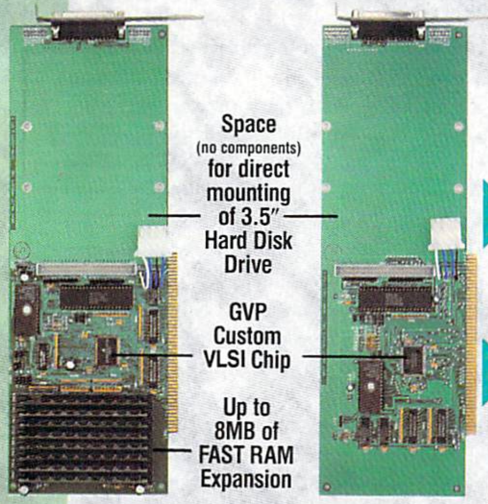
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SCSI TIMES 1990

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GVP today introduced its new Series II product line and announced a bold new trade-up program, which is certain to further bolster GVP's dominant market share in the Amiga hard drive market.

Details of GVP's new TRADE-UP program are as follows:

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- All trade-in controllers must be sent to GVP FREIGHT PREPAID.
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REPARTEE

Comments, complaints, and concerns from AmigaWorld *readers.*

LESSONS LEARNED

Commodore *has* changed. I teach middle school in an Apple-dominated district and have worked in the classroom with these inferior machines. Computers, you may have heard, are supposed to make learning fun. With them, learning presumably becomes some great experience. Believe me, Apple has done a lot to squelch that belief. Most "educational" programs on the Apple IIgs and SE are deplorable. Those that do offer some educational value run so poorly, have such poor graphics, and take so long to load that any mistake results in havoc, not education.

About two years ago, I began struggling to establish the Amiga as the computer of choice in our school district. During my crusade, I received no support from Commodore. Company representatives told me, "We are not going to buck Apple," and, "Should we give your district an Amiga, it would only sit on a dusty shelf somewhere."

I did everything I could to convince CBM otherwise. I held my own computer show and attended others. I took my Amiga 500 to school numerous times. I showed my colleagues as many program and video demos as I could and distributed all manner of magazine articles. The district remained firmly Apple oriented, however.

Time passed and so did some rusty Commodore executives. My next contact was Susan Bengough of CBM's education division, who immediately went to work on my proposal. Before the end of the 1990 school year, Commodore sent our district an Amiga 2500, genlock, and monitor for free! During that week I demonstrated the A2500 to the district superintendent, and a few days later sent him requisitions for software in excess of $600. He approved them all.

Imagine our computer class now! We can produce a school newsletter each week, when it took weeks to make an illusionary one with the Apple IIgs. Who knows what will happen when our copy of AmigaVision arrives!

John H. Rice
Parachute, CO

SEND POSTCARDS

Doug Barney's letter-writing campaign ("Chief Concerns," Sept. and Oct. '90, p. 6) is an excellent and effective way to give the Amiga the attention and support of more software corporations. I urge all Amiga owners to write to companies about developing applications software. Even if *you* don't care for spreadsheets and word processors, you owe it to yourself and other users to try to increase the Amiga software base and user base in any fashion. I'm challenging all who read this to write to Microsoft and convince the company to convert Microsoft Word, Microsoft Excel, and other programs to the Amiga. Send your letters to Bill Gates, President, Microsoft Corporation, 1 Microsoft Way, Redmond, WA 98052.

Matt Carrell
Puyallup, WA

VOTING DEMOCRATIC?

Lou Wallace's article, "Democratic 'Development,' " (Aug., p. 18) contains revisionist history that I could not ignore. It strongly implies that microcomputers are responsible for most of the recent and significant developments in software. This is false, although the microcomputer *is* responsible for bringing us tools and amenities, such as the Amiga's windowed, icon-oriented environment, at a price we can afford.

Some other points: Computer rooms were not "sterile." Technicians, not "nuclear physicists," wired the patch panels. Dual Inline Pack (DIP) switches were never on 1950/60 vintage computers; these had toggle rockers. Large programs were not entered via front-panel switches on regular production computers, but via cards. Finally, video terminals were not common until the late 1970s.

No one expects *AmigaWorld* to chronicle the history of computing. You have, however, a responsibility to provide correct information when touching on any subject.

John Clenance
Hoboken, NJ

I might have been able to shrug off Lou Wallace's cutesy, pop-mystique nonsense about ". . . entire cults of white-clad techno-priests. . . ." in his article, "Democratic 'Development,' " but the fact that Lou so grossly distorted history has me irritated enough to write.

Few programmers were "highly trained" prior to being employed before the mid to late '60s. External training was not available except by job-hopping. The claim that microcomputers spurred the development of ". . . more powerful, sophisticated, and flexible computer languages. . ." seems ludicrous. With the possible exception of Modula II, all the languages Lou named were established well before the availability of microcomputers.

He states that OOP objects are collections of data, when in fact they are collections of private data and procedures. He then concludes by flipping off the folks who started the computer revolution, claiming that they had no further vision of what they started. Hell, it was they who pushed the revolution forward!

Foo to Lou!

S. C. Skirvin
Scottsdale, AZ ■

Headliners

NEWS FROM THE AMIGA COMMUNITY

The Software Publishers Association reports that during the first half of 1990, domestic Amiga software sales increased by "a robust 33.9%" over the same period last year.

What's on CDTV? Nothing Today; Tomorrow, Plenty

UNITED KINGDOM—*AmigaWorld* recently crossed the Atlantic to check out the latest CDTV developments in the UK. Although developers on the other side of the drink have yet to receive working units, those we visited are hard at work on innovative CDTV applications and tools.

Multimedia Corp., a spinoff of the BBC, is creating an interactive program adapted from the children's book, *A Bun for Barney*. The animation is by Bill Melendez Productions in Los Angeles, and the voices are by Tom Baker, better known as Dr. Who (the popular one) of the public-television series.

Ariadne, maker of the MicroText authoring language, is also working on a new, asynchronous multimedia authoring system. According to company officials, the language can work efficiently with slow devices such as CD-ROM drives, because it can load sounds and images while it plays and shows others. The firm is also busy developing a package called Music Maker for the UK-based software publisher, Music Sales. Music Maker allows you to select instruments, play individual notes, play music over another CD, follow the lyrics on screen, and select songs and rhythms.

Ariadne is working not only on broad-based packaged applications, but also on tailored interactive applications. One such custom project is for the London subway system. London Underground personnel who headed up the project wanted an interactive system, but specified use of Compaq computer equipment. Ariadne's solution involves using CDTV as a peripheral that the Compaq can trigger. Good thinking!

Another British developer, Logic Plus, is plugging away on Airways, an air-traffic-control simulator that will be available first for CDTV, then for the standard Amiga lineup.

Ocean, a company that distributes products from a variety of affiliated vendors, has numerous items up its CDTV sleeve. CDTV versions of the games SimCity and SimEarth, scheduled for launch in mid-1991, add more levels and depth to these already well-endowed products.

Virgin Mastertronic is hot on a CDTV adaptation of the interactive video, North Polar Expedition. Popular in UK schools, North Polar Expedition is a group-oriented program wherein six explorers work as a team to reach the pole. If one team member makes a mistake, the whole group is affected.

Another educational package from Virgin, tentatively called Musicolor, is based upon the innovative music learning system developed by Candida Tobin. This system is used widely and has been adopted by Montessori schools.

Domark is ready to take the CDTV plunge with Trivial Pursuit, but because the firm does not have US rights, the product may never see America. Their Herewith the Clue, however, should make it to the States on CDTV.

We have only scratched the surface of what is to come from "over there," and we'll keep you apprised of exciting CDTV developments. Meanwhile, back stateside, we got in touch with Commodore's CDTV maven, Gail Wellington, to get the skinny on the CD-based Amiga. According to Gail, CDTV will be test marketed in several US locations throughout the holidays. The big push, however, will come in late winter or early spring, about the time we should expect to see the CD-ROM peripheral for Amiga computers, says Wellington.

—Doug Barney

Gramma Software Expands Donation Projects To Assist Needy

SEATTLE, WA—With the chill of winter descending upon the Northwest, Gramma Software is once again soliciting contributions for its underwear-donation project to aid the area's homeless. Company co-founder Michael Loyacon began the project after finding out that Seattle shelters have a pressing need for men's clean socks and underwear (see *AmigaWorld*'s report on the start of the project on p. 10, Sept. '89).

Gramma's community service is expanding in other ways, too. After local ABC affiliate KOMO-TV reported the project on a program called "People Helper," show host Brook Stanford asked Loyacon about the possibility of rounding up used computers for handicapped people and nonprofit groups.

"With the help of Amiga enthusiast John Willott, we contacted 100 computer users groups in the Northwest," reported Loyacon. "The group members and KOMO-TV then helped to form the Computer Bank Charity."

Now, equipment of all types is being donated by businesses and individuals. Users-group members assemble the systems and help the recipients to get it up and running. "In one recent case," Loyacon said, "we were able to set up a computer-training center for underprivileged children 7–19 years old. The program is administered by the local 4H group, and training materials were provided by the University of Washington."

People who are interested in donating equipment or finding out more about the project can contact Michael Loyacon at Gramma Software, 17730 15th Ave. N.E., Suite 233, Seattle, WA 98155, 206/363-6417. You can send monetary contributions to either Gramma's Underwear Donation Account or the Computer Bank Charity, c/o Puget Sound Bank, PO Box 55368, Seattle, WA 98155.

—BG

Commodore and Sony Make Plans At Video Expo

NEW YORK, NY—The Video Expo/CAMMP show, held September 10–14 at the Jacob Javits convention center, brought together low-end industrial video professionals and "pro-sumers" as usual. What was extraordinary about the show was the Amiga's touch, as both Commodore and NewTek displayed their wares. With its Video Toaster, NewTek drew as much interest as Sony, traditionally the Expo's most popular exhibitor. (The Toaster, incidentally, cleared FCC hurdles and commenced shipping as of September. The firm is flooded with orders, so it may be a while before Toasters hit your dealer's shelves.)

In that ever-popular Sony booth, company representatives demonstrated the EVO-9700 Desk Editor, a Hi-8 tape-editing system that retails for around $6000. This product has special significance for the Amiga market, for in the company of an A3000 and a Video Toaster, the EVO-9700 makes a complete professional video system. It is rumored that Sony and Commodore will do some joint promotion for this setup—a great boost for the Amiga's professional image.

The new year's first Video Expo, slated for February 11–15, 1991, will be held at the Civic Auditorium in San Francisco. For details, contact the show's producer, Knowledge Industry Publications at 800/248-KIPI or 914/328-9157.

—BG

Where Do We Go From Here?

WEST CHESTER, PA—In a recent flurry of activity, four executives departed Commodore in rapid succession: Vice President of Marketing C. Lloyd Mahaffey, Director of Marketing Communications and Consumer Marketing Tom Kilcoyne, Director of Product Marketing Walt Simpson, and Amiga Products Manager Keith Masavage. There has been no word on replacements as yet.

While we have heard that Mr. Mahaffey left to join a venture-capital firm, there has been no official comment on the reasons behind the flight of the executives. Perhaps involved is the fact that Amiga sales have yet to see a dramatic rise. Regardless of the whys and wherefores, the departures are sure to put a temporary crimp in the firm's promotional efforts.

—Doug Barney

European Games Emigrate West

The British are coming! And the French! And the Germans!

American Amiga software companies have been doing some big-game hunting in Europe, and the pelts they've won have started to turn up stateside.

The European 16-bit game market is a crazy-house version of its US counterpart. Most games come out first for the Amiga and the Atari ST, and then maybe for the IBM PC. So it's fertile ground for US companies looking to expand their Amiga product lines—without incurring development costs for wholly new projects. Indeed, a number of American developers—Cinemaware, Data East, Accolade, Interplay, Electronic Zoo, Electronic Arts, Microprose, Mediagenic and others—have dipped into the European game pool over the last two years.

For Amiga game-players, this is a blessing, bringing a sizeable boost in the number of games available. Moreover, to date, most import selections have been top-of-the-line, thoughtful, even provocative.

Sometimes the games come over as released, save for improved documentation and minor reprogramming to adopt the NTSC standard. In other cases, games improve significantly in crossing the Atlantic. Accolade's Strike Aces, for instance, is the US version of UK Activision's Fighter-Bomber—with a time-compression feature added for long missions. Cinemaware's Federation (known as Federation of Free Traders in Europe) also saw sizeable changes before the English game became the US company's cup of tea. Beyond that, some US companies are going to European development houses to write Amiga conversions of domestic games, as with the recent conversion of SSI's monster RPG Pool of Radiance, Origin's Ultima V, and Microprose's F-19 Stealth Fighter.

An attendant development is the growing appetite for imports. A hot game released in Europe may turn up in a US shop ten days later and disappear from the shelves within hours of arrival. Hard-core import fans—who don't mind paying premium prices—track them relentlessly.

—Peter Olafson

Amigas Aid House Painters Banish Guesswork

MONTVALE, NJ—The Amiga continues to show up in the darndest places, doing what it does best. Look closely, and you may find one at work in your local paint store. Benjamin Moore and Company makes the $4800 Video Color Planner system (VCP), an Amiga-based interactive display for the do-it-yourselfer, available to dealers in its nationwide chain of paint stores.

Marketed by Colwell General, of Ft. Wayne, Indiana, the Video Color Planner employs an A500 and proprietary software. The arcade-style display system allows Benjamin Moore customers to see the results of a prospective paint job before lifting a brush. The customer feeds a photograph of his home or room into the VCP's flatbed color scanner, then selects one of 1800 available paint colors. From within, the Amiga 500 displays a digitized version of the photo on a color monitor, then invites the viewer to do some "experimental painting" with the built-in trackball. When the results are satisfactory, the customer requests a list of the materials required to complete the project.

Sources at Benjamin Moore say the VCP has been an effective promotional tool, installed in over 500 of the company's 3500 stores. Other paint-store chains, including Pittsburgh Paints, Fuller-O'Brien, and Porter Paints also use versions of the VCP under different names. Phil Kenyon, President of the New Zealand-based Target Computers, which developed the system, predicts a large potential market for the system in other "color matching" industries such as textiles, vinyl flooring, and window replacement.

—John Wolfskill

Green Mountain Graphics

JOHNSON, VT—Cram 14 kids, three Amigas, and a few graphics packages into a small practice room for two and a half weeks, and what do you get? "Everything from comic-book-style stuff to some very abstract and expressionistic pieces," says Michael Hanish, instructor for the Arts Institute of Vermont.

An intensive multidiscipline arts experience for high-school students coming from all over Vermont, the Institute this year gathered together 120 teenagers, about 28 of whom participated in the three electronic-arts (music, graphics, and video) classes.

The graphics class met twice daily, although Hanish kept the studio open almost nonstop so that the students could continue working. "Only one [of the kids in my class] had ever worked with an Amiga before," said Hanish. He was surprised and pleased to see how quickly they took to the machines and the software. "In a day they were comfortable and working, though constantly in need of advice and ways to get out of the bizarre situations they got themselves into."

Hanish reported that the three electronic-arts classes worked together on a number of projects, including music videos, animations, a documentary, and a short horror video.

—BG

Amigas Gaining Hold in BC Schools

BRITISH COLUMBIA—What do you call a group of "Amiga-Using Educators"? Why, AmUsEd of course. With over 100 members, AmUsEd is a significant force in the British Columbia educational community. Every year the group meets for several days of hands-on training and interactive discussions. This year's get-together, on Vancouver Island, focused on a number of hot Amiga topics, including laser discs, genlocks, MIDI, video, sound digitizing, CD-ROM, and AmigaVision.

According to AmUsEd representative Bob Herbison, the group's goal is to promote the use of Amigas in education. He reports success, as "More and more districts are getting into it." Primary grades use Amigas with such programs as JMH's The Talking Animator, and secondary schools use them in art and media-production clsses. Although the group's activity is now limited to BC, Herbison is interested in speaking with people from other provinces. You can contact him at School District #70, Resource Center, 4690 Roger St., Port Alberni, BC, Canada V9Y 3Z4, 604/723-3565.

—Doug Barney

Promotions in Motion

San Mateo, CA—Whether you want to get more for your last-minute holiday-shopping dollars, or you need an excuse to buy some of the hoped-for software that Santa forgot to leave, you should know that Electronic Arts and Sony have teamed up for a promotion. The deal goes like this: Buy one, two, or three featured EA programs, and receive a Sony Walkman for $15, a Watchman for $85, or a Discman for $120, respectively.

Eight Amiga titles are recognized as part of the promotion: DeluxePaint III, DeluxeVideo III, Populous, 688 Attack Sub, Budokan, Powermonger, The Immortal, and Chuck Yeager's Advanced Flight Trainer. The other allowable products are ten IBM titles. The offer is good in the US and Canada and expires March 1. Check with your dealer or with EA (415/571-7171) for details.

—BG

Headliners is compiled by Barbara Gefvert. Send your news bits to Headliners, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458.

REVIEWS

Pulsar Power PC Board

Two computers in one.

By John Wolfskill

NO LONGER DO Amiga 500 owners have to turn jealous eyes to the A2000 and its Bridgeboards to find IBM compatibility. The Pulsar PC Power board, developed by Kloff Computer Supplies Bv. of Holland, brings IBM software compatibility to the A500. The card is an IBM PC/XT-compatible computer (sans video, I/O ports, and power supply) that fits into the expansion slot on the A500's underside.

The auto-config board comes with a NEC V30 CPU, a battery-backed clock, and a Phoenix Technologies ROM BIOS chip set. While the board uses 512K of its one megabyte of RAM to run PC applications, it lets you assign the remainder as a virtual RAM disk. A special Amiga boot disk and an IBM disk with MS-DOS 4.01 handle the software side.

When you start your A500, the PC Power board reconfigures the machine's internal and external drives to emulate up to four PC floppy drives, and, using the Amiga's video hardware, provides support for a HGC (Hercules Graphic Card) display adapter or IBM's Color Graphics Adapter (CGA). The board's software drivers reconfigure the A500's parallel, RS-232 serial, and joystick ports to work with PC peripherals.

Open and Shut Case

You can install the board in a few minutes. Simply remove the expansion slot's door, slide the card in place, then replace the door. Setting up the software drivers to emulate the IBM PC/XT's hardware takes a bit more work, but is neither time-consuming nor difficult. You use the PC Preferences program on the Amiga disk to set the board's clock, configure a virtual RAM disk, and select the way the board will configure the A500's disk drives and I/O ports. To access PC Preferences, hold down the left mouse button during the boot sequence, then make the appropriate changes. The program stores the new settings in a configuration file that loads each time you boot with this disk.



YOUR TURN!

When I first tried the Pulsar PC Board, it would not work and immediately caused a guru. I opened the case of my hard-drive interface and took the RAM off line. This allowed the emulator to function, but when I installed the custom-clock program, the machine crashed again.

The board lacks hard-drive support, and the RAM disk does not work well with DMA devices; portions of data destined for the hard drive sometimes end up in this RAM disk.

Although the manual is skimpy, installing the board is extremely easy. Software installation, however, is rigid and allows only for installation of the custom clock and RAM driver on a Workbench floppy. This is fine unless you have a hard drive.

While the emulator does a fairly good job of simulating a CGA or MGA display, text scrolling can be jumpy and hard to read. My board was labeled NTSC, but I could see only the tops of the indicators that run across the bottom of the screen. The Power PC Board ran all the productivity and telecommunications software I tried on it.

Bill Gundlach
Sandusky, OH 44870

To start an MS-DOS session, boot with the Amiga disk, which loads and configures the drives and I/O ports. Next, the Pulsar board takes control and checks its own hardware. At this point, you replace the Amiga disk with the MS-DOS boot disk. When the MS-DOS A> prompt appears, you're ready to begin. Although the manual claims the Pulsar board will eventually support Microsoft-compatible mice, it currently supports only the less-popular Mouse Systems model.

To test the board's compatibility with PC software, I selected such popular packages as Lotus Development's 1-2-3, Buttonware's PC-File (a database-management program), Electronic Arts' DeluxePaint Enhanced, and a sampling of games, word processors, and shareware applications. The results were mixed. Because the Pulsar board does not support a hard-disk drive, running some PC applications was difficult (sometimes impossible). Although more than enough RAM was available to run these applications, the lack of disk-storage space caused problems.

For example, DeluxePaint Enhanced refused to install itself on any disk with less than three megabytes of free storage space. Most applications that loaded ran without a hitch. However, during an attempt to transfer a block of files to a laptop PC using Traveling Software's Laplink file-transfer program, the A500's serial port did not work reliably.

One at a Time

Unlike Commodore's PC Bridgeboard for the A2000, the Pulsar board does not provide access to the Amiga environment. Once in MS-DOS mode, you must reboot to return to AmigaDOS. To transfer text files between the two formats,



Besides the board, the Power PC package includes software to run with.

the company provides a copy of Consultron's CrossDOS, which lets you read and write MS-DOS and Atari ST disks in your Amiga's floppy drive.

Although you leave multitasking behind when you use the Pulsar PC board, MS-DOS gains complete control of the machine. The result is excellent performance. In text mode, for example, screen updates are very rapid—much faster than a real PC/XT running at the same CPU clock speed. The Norton Utilities (version 5) Sysinfo program showed me just how fast: The board delivers CPU speeds equal to those of a 6 MHz IBM PC/AT, which is more than three times faster than a standard 4.77 MHz IBM PC/XT. In addition, the board makes more RAM available (up to 704K) for applications than does a standard PC/XT.

Is the Pulsar Power PC Board a total solution for A500 users who need to run IBM software? For most games, home applications, and programs that don't require hard-drive installation, it works as advertised. If you use only these applications, the board's $498 price tag may be a bargain. The appeal wears thin, however, when you consider the board's lack of support for modern PC software (such as programs that require IBM EGA/VGA video adapters and a hard drive), which severely limits its usefulness. After all, for $300 to $400 more, you can buy the real McCoy, complete with hard drive, monitor, and mouse.

Pulsar Power PC Board
Pulsar
Division of Oxide Industries Inc.
410 Maple Ave.
Westbury, NY 11590
516/997-6707
$525
No special requirements.

PIXEL 3D

Enter a new dimension—in color!

By Harv Laser

LOOK! HERE'S A new tool to help you convert flat IFF bitmap pictures into objects suitable for use with 3-D rendering programs. Like other such software, Pixel 3D contains elaborate algorithms which analyze the structure of an IFF picture. It decides where all the edges are, discriminates foreground from background, and then creates vertices, edges, and polygons from which to build 3-D objects. Pixel 3D differs from its competition, however, in that it can also analyze the color content of an IFF picture and incorporate that information into the objects it produces. (For more information on 2-D to 3-D conversion and other such software, see "2-D or Not 2-D" in the 1990 Video and Animation Special Issue, p. 106.)

SAVE ME A SPOT

Operating Pixel 3D is quite simple. The 90K program installs easily on a floppy or hard disk; simply drag its icon over the destination-disk icon. The program manual is compact but completely adequate.

When Pixel 3D loads, it displays its "Memory Allocation" requester, which requires you to specify how much RAM you want to earmark for the program to do its work. Click on the large up-and-down arrows to change two coupled values: Maximum Vertices and Maximum Edges. The former has a low value of 2500 and doubles, with each up click of the up arrow, to a ceiling that depends on how much RAM you have. (It topped out at 50,000 in my five-meg machine.) The latter starts at 7500 and also expands with memory; in my case it went up to 150,000. The minimum settings require 126,600 bytes of RAM. The highest for five megs, 2,532,000 bytes.

This memory-allocation scheme takes some experimentation to master. After all, how do you know whether a picture you want to convert to 3-D requires a low or high setting? If you are short on memory, you may first have to load your picture into a bitmap-massaging program such as PIXmate (Progressive Peripherals) or The Art Department (ASDG) and reduce its number of colors

Continued on p. 16

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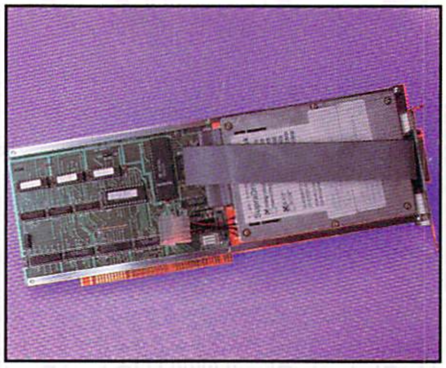
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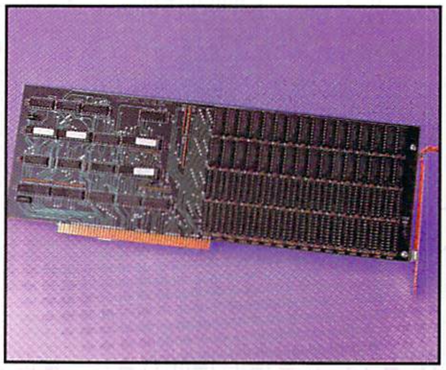
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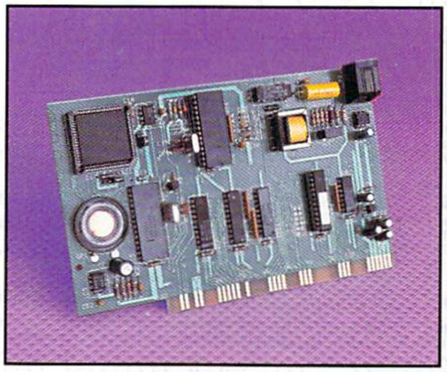
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Internal half-card modem for the Amiga 2000 & 3000. Installs easily in any Amiga bus slot. Supports multiple modems on one computer.

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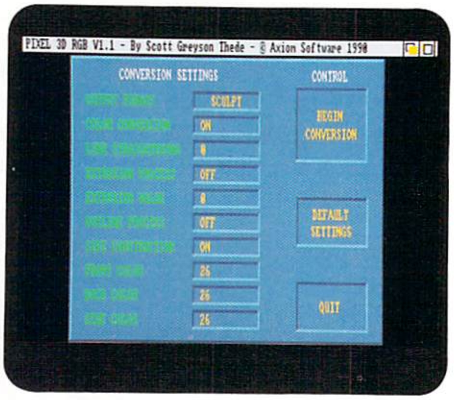
and bitplanes. In fact, this is a good general tactic; complex and multicolored pictures take a lot of memory to convert and ultimately produce enormous 3-D objects that can bog down your rendering software to the point that it may not load them at all.

Conversion in Particular

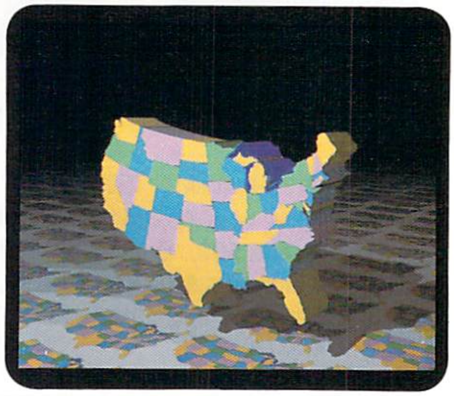
What kinds of two-dimensional pictures can Pixel 3D take to the next dimension? You can convert any non-HAM IFF picture or brush, including overscan and superbitmapped images. Keep in mind, however, that it is best to start with simple pictures until you have gained some experience.

Pixel 3D's control screen presents you with ten parameter fields to customize. First, choose the type of object you want to generate: Pixel 3D can make ".scene" files for the Sculpt family of programs (Byte by Byte), ".cell" files for Turbo Silver (Impulse Inc.), ".geo" files for VideoScape 3D (Oxxi/Aegis) and ".DXF" files for AutoCAD (AutoDesk).

If you want your 3-D object to inherit the IFF picture's colors and convert those colors to object polygons, click on Yes in the control screen. If you'd prefer that Pixel 3D ignore the picture's colors and distinguish only between foreground and background, choose No. I recommend you experiment to determine which choice will yield the best results.



To choose your output, click on gadgets.



This map was extruded, and then rendered.

The Line Straightening option aids in getting rid of the jagged-edge effect caused when you convert diagonal or curved lines into polygon edges. Higher values entered into this box produce smoother results.

If you want your bitmapped picture to end up as a flat object, leave Extrusion Process off. Otherwise, enter a value in this gadget to indicate how thick or deep the object should be. The Side Construction option toggle works in tandem with Extrusion to copy the colors from the front of the object onto its sides. Outline ►

Process builds an object of line segments based on the edges detected in your picture. You can ignore the Front, Back, and Side Colors options unless you are making an object for VideoScape 3D, in which case you enter its "color table codes" for the desired values.

It's Ten to Three

Once you have tailored these ten options to your liking, you have three choices: First, selecting Begin Conversion opens Pixel 3D's efficient file requester. Here, you specify your source picture and name your output object file; the picture loads and displays on screen in outline form. Now sit back and watch as Pixel 3D performs the conversion. A small information box lets you know what's happening and a Stop button lets you abort. The conversion can take seconds or minutes, depending on the complexity of your source picture and what you have told Pixel 3D to do with it.

Second, choosing Default returns all ten parameter settings to the values they had when you first loaded Pixel 3D. Finally, clicking on Quit exits the program.

Pixel 3D has no ARexx port, but it doesn't really need one. It offers a way to operate it totally from your CLI or Shell prompt without ever touching the mouse. You can choose all the possible parameter settings in Pixel 3D's interface with command-line switches. Using Pixel 3D this way permits batch processing of many pictures into objects; you simply create text scripts to do the work.

Unlike DigiWorks 3D (Access Technologies), the only program I'd name as a real competitor, Pixel 3D eschews manual vertex and edge-manipulation tools in favor of virtually complete automatic operation. My experiences with both programs have led me to conclude that Pixel 3D is not only easier and less frustrating to use, but produces better 3-D objects more quickly and with less hassle. Its ability to include a picture's colors in the 3-D object and to output in four different formats are benefits. We have a new champion. Pixel 3D is the best 2-D to 3-D autotracing software available for the Amiga today.

Pixel 3D
Axiom Software
1221 E. Center St., S.E.
Rochester, MN 55904
507/289-8677
$89.95
No special requirements.

Professional Draw 2.0

The same, only different

By Chris Dickman

OVER A YEAR ago, I welcomed the arrival of Professional Draw, the Amiga's first vector-based illustration program. At the same time, I lamented its many shortcomings (see the review, June '89, p. 72). Developer Gold Disk seems to have listened, as Draw 2.0 answers many of my objections to the original package. Problems remain, but Draw has now evolved into a viable production tool for desktop publishers and illustrators.

Professional Draw 2.0 is basically the ►

same as 1.0, with an interface similar to Gold Disk's Professional Page layout program. All the original strengths are still with us, such as its ability to create color separations on a PostScript imagesetter and to output to virtually any print service. But new features, both large and small, are sprinkled throughout.

Text Tour

Text handling has not changed dramatically. The program still supplies just one serif and one sans-serif font, although you can also import the Compugraphic fonts Gold Disk sells for use in Pro Page. (By comparison, the PC drawing program CorelDRAW is supplied with over 40 industry-standard fonts.) Screen display of type is considerably improved, however, to the point where you can now accurately position letters.

Unfortunately, you still cannot edit text once you've placed it on the page; instead, you are forced to delete it and start over. You also cannot specify the attributes of part of a text string. If you want just one word in bold face, for example, you must create it as a separate object. In fact, only the regular weights of the two faces are supplied; if you want to create images containing text, you need the optional fonts disk. It would have been better to provide support for all the resident fonts of PostScript printers, a standard practice of most draw programs.

A much-needed ability to align text to a user-defined path has been added, and it comes with a few nice options, such as the ability to spread the text string along the length of the path. However, because Draw has no Undo command, if the wrap is not to your taste, you must delete it and start over. Also new is the ability to convert text to editable line and curve segments—a great way to construct custom logoforms and type treatments.

In the Blender

You can now select two objects and have Draw create a transition between them, in any number of steps you wish, choosing from four kinds of transformations. By assigning different colors to the objects, you can create a range of transition colors. To give a circle a shaded appearance, for example, you could draw a small circle on top of a larger one and give them different colors; Draw would then create a series of circles between them in different sizes and shades.

There is still no simple way to fill an object with graduated shades. To shade text this way, for example, you must go through several steps and create an excessive number of objects: Create a box, duplicate it, fill each with a different ►

YOUR TURN!

Pro Draw 2.0 is a lot faster than 1.0, and some of its features are really neat. The autotrace module seems to be more memory intensive than similar programs on the Mac, but Mac tracing programs can cost more than the entire Pro Draw package.

Dayle Martin
Olympia, WA

color, align them, use the Blend command to create the intermediary steps, make sure the edges of the boxes just touch each other, draw a box around the text, combine the pieces into one object, and, finally, drag the text onto the colored boxes. Not exactly an elegant technique.

The limitation of this approach to blending colors is that by creating multiple objects you can easily run low on memory. One megabyte is definitely not enough to do useful work with Draw—two or more megs is more realistic.



Throw your text a curve! Text manipulation on screen (top) is output through a PostScript laser printer (bottom) from a Pro Draw EPS file.

A Con Version

The ability to automatically convert bitmapped images to vector format has been available for several years on the Mac and PC sides. Autotracing transforms a mass of bits into a collection of closed paths, resulting in smaller, fast-printing files that you can resize with no loss in print quality. These files can take advantage of higher resolution printers (such as PostScript imagesetters), and they are editable in vector-based programs. Typical applications of autotracing include the conversion of bitmapped clip art, public-domain graphics, and scanned images. Many artists draw a quick sketch freehand using conventional media, scan it, autotrace it, and finish the image in a drawing program.

The rather mundanely named Trace program, included with Pro Draw 2.0, converts IFF files (excluding HAM) up to 1008 × 1008, producing Clip files that can be imported into applications such as Pro Page. Its operation is simple enough, but it does not allow much control over the resulting files. The essential Fit parameter is adjustable, so you can produce a trace that follows the bitmap more or less closely. You can also instruct Trace to fill closed areas, and to create a separate closed, colored object for each color it encounters in the bitmap. This is fine for simple images containing only a few colors, but creates unworkably complex files in many cases.

I found Trace handy for converting scanned logos and images from clip art books, but I missed the controls found in PC and Mac applications. Pro Draw's Trace lacks centerline conversion abilities, for example, which makes it awkward for converting scanned images such as technical illustrations. Without centerline tracing, Trace almost invariably converts lines as thin filled objects, making editing difficult.

Another common feature that's missing is the ability to specify whether long lines should be converted to straight or curved segments. Without this, the slight jaggedness in a scan sometimes fools Trace into converting long lines into unwanted curves.

Because vast quantities of bitmapped images are available in Mac and PC formats, it's regrettable that Trace can only convert IFF images. The PC version of Streamline can convert MacPaint files, for example; why can't Trace? These interplatform links are all too rare on the Amiga, a fact that helps to keep it in a desktop-publishing ghetto. While Trace is a welcome first effort, Gold Disk should not rest until it provides Amiga users with the functionality offered on competing platforms.

Draw Backs

Although Gold Disk claims that Draw 2.0 runs "up to ten times faster" than its predecessor, it still crawls through many operations, such as importing bitmaps and displaying object fills. As with the earlier version, when you deselect an object, holes are displayed where the nodes were. Objects with many nodes, such as letters that have been converted to curves, sometimes disappear when deselected in the full-page view. Why Gold Disk does not fix this is hard to imagine.

YOUR TURN!

Pro Draw 2.0 is great and extremely versatile. I use it to produce architectural, technical, and medical illustrations, and cross-hatching that looks like engraving. The bezier curves and editable circles are wonderful!

I think the IFF-import facility was added primarily to let you trace images to create structured drawings. But you can also combine them with type, charts, logos, and so on, to produce comps for print ads, magazine covers—anything! Because you can shrink and tile IFFs to create very hi-res images, you can even produce a finished product.

The manual barely touches on all the features. You must figure out strategies to apply those features to your projects. I wish CBM and Gold Disk would sponsor university programs to teach the skills necessary to use this package.

I hope Pro Draw 2.0 gets the recognition it deserves, so that Gold Disk can continue upgrading with features such as math-coprocessor support, some means for correcting the aspect ratio of the screen image, and better control over the foreshortening aspects of perspective when using the distort and blend tools.

Jim Silks
New York, NY

You still cannot define colors in terms of the Pantone Matching System, and the lack of an Undo command is unforgivable. They've also switched the manual from wire binding to a perfect-bound format that does not stay open on your desk. In addition, it is full of typographical errors and has a terrible index.

Pro Draw is now an extra hundred dollars, but the added functionality has resulted in a truly useful tool. Gold Disk still has a long way to go to catch up to

similar Mac and PC draw programs, but this update indicates that the company is serious about Pro Draw. That's good news for Amiga desktop publishers and illustrators, as Draw remains the only show in town for creating freehand, vector-based images.

Professional Draw 2.0
Gold Disk
P.O. Box 789
Streetsville
Mississauga, ONT
Canada, L5M 2C2
416/828-0913
$295
One megabyte required.

AEHD Drive

More mileage from a drive

By Sheldon Leemon

EXTERNAL FLOPPY-DISK drives are among the most popular of Amiga peripherals, and yet you'll rarely see a review of one. That's because for the last five years, such drives have all been pretty much alike. Some have offered a pass-through connector to let you hook up additional drives, some a power switch or a design that eliminates the usual clicking sound that occurs when the drive is empty.

Their main function, however—reading and writing standard 880K Amiga format disks—has remained unchanged. While other computer systems have switched to high-density, 3.5-inch floppies having double the capacity of standard models, the Amiga has been plugging along with its original drive, leaving frustrated owners to ask themselves, "If we can put a man on the moon, why can't we put a high-density floppy in an Amiga?"

Through Apple-Colored Glasses

The first company to provide some kind of answer to this question is Applied Engineering, a company best known for its Apple II peripherals. The Apple connection is apparent in the styling of the AEHD high-density drive for the Amiga. It looks identical to the Macintosh version of the drive, right down to the Mac-platinum color. In fact, the company has not even changed the packaging, which identifies the drive as an 800K unit "compatible with all Macintosh Series, Apple IIGS, IIC Plus, IIe," and bears an endorsement from Steve Wozniak, co-founder of Apple. (I always figured the Woz was an Amiga fan at heart.)

Applied Engineering's origins seem to have given the company a different perspective on the Amiga market. This drive differs in several respects from the standard Amiga unit. It's got a stylish plastic case (as opposed to the bent metal case of most inexpensive Amiga drives). It features a dual-color activity LED that glows green when the drive is reading, and red when it is writing—which, if nothing else, tells when the drive is working instead of just hung up.

More important, it features an electronic drive-eject system rather than a mechanical one. The eject button is actually a soft-touch switch that sends an electronic request to the drive, asking it ►

to eject the disk. If the drive is busy when you press the button, the unit politely ignores your request until disk activity is safely finished. This completely eliminates the possibility of ejecting a disk before a write operation has been completed, an action that often results in the dreaded "Volume VitalWork: has a Read/Write Error" message.

Although electronic ejection is easier and safer, it works only when the drive is connected to the computer and the computer is turned on. When the power is off, you must use the back-up mechanical eject system, which involves pushing the end of paper clip into a small hole on the front of the drive.

DATA DEMON

The AEHD's most significant feature is its ability to store over 1.5MB of information on a single high-density floppy. This capability is not automatic; to take advantage of it, you must install a device driver (which patches the normal trackdisk.device) and add the device to the system using the MOUNT command. The drive comes with detailed instructions for installing the needed software, as well as an installation script that takes care of it automatically. This script does not alter your startup-sequence file so that it automatically mounts the high-density drive, but this is a fairly simple task to accomplish for anyone familiar with text-file editing. The driver software does work on a 3000 under 2.0.

Once mounted and installed, the AEHD drive acts as two drives. When you insert a standard-density floppy, the computer recognizes the drive by its usual AmigaDOS designation (df1: for the first external drive on a 500, df2: for the first external drive on a 2000). If, however, you insert a high-density disk (these have an extra square hole opposite the write-protect hole and the letters "HD" printed by the shutter), the system recognizes the drive by the name under which you mounted the high-density device (usually df5: for the first external drive on a 500 and df6: for the first on a 2000).

Applied Engineering handles more data by simply slowing the drive's disk-rotation speed. Originally, the company had planned to double the normal disk capacity to 1.76 megabytes by slowing the drive to half speed, but this did not work. The final version stores only 19 sectors per track instead of 22, for a total of 1.52MB per disk. As a result, the drive is unable to read 1.44-meg, IBM-format disks as originally advertised (though it can read a 720K MS-DOS disk, with the help of a format-conversion utility such as Consultron's CrossDOS).

THE ARITHMETIC OF READING AND WRITING

As you might expect, slowing down the drive affects the speed at which it reads and writes data. Using the Diskspeed program to measure it, I found that the high-density drive writes at just 525 bytes per second, instead of the usual 3000 bytes per second. In actual practice, however, writing files to the high-density disk turned out to be only about 20–25% slower than writing them to a standard floppy.

On the other hand, disk reads were consistently 20–25% faster in the high-density mode. This means that under normal conditions, in which you read from disks much more frequently than you write to them, the high-density mode should be faster than standard mode. You will probably find that high-density mode makes the process of backing up a hard drive a little faster than usual because of the reduction in floppy swaps.

As with most new products, the AEHD drives had some bugs to shake out. The first unit I tested worked unreliably (due to production problems in the initial run), and the original manual had numerous typographic errors. The second unit worked flawlessly, however, and came with a corrected manual. All told, I was quite impressed. While the AEHD does not offer double the storage, it does provide more capacity than comparable IBM drives. And even in normal-density mode, the electronic-eject button is an important safeguard. Most important, however, the AEHD Drive represents a much-needed step away from the status

YOUR TURN!

I have put my AEHD drive through its paces for copying files and formatting both standard and high-density disks, and have used scores of programs to access the drive and check on its general performance. I have had virtually no problems with its operation (although the auto-eject system does spit disks out rather forcefully) or its compatibility with Workbench 1.3. The installation instructions are flawless.

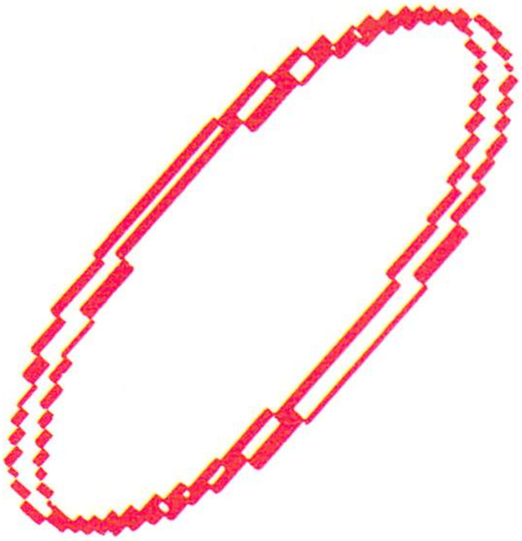
People should be aware that there is a big difference between standard (880K) and high-density disks in terms of their magnetic properties. Putting an extra hole in the shell of a standard disk and using it as a high-density one can put many holes in your data!

Doug Snyder
San Jose, CA

YOUR TURN!

I purchased the AEHD Drive, but ended up exchanging it for two low-density drives. The reason is that in high-density mode, the drive works only with the more expensive high-density disks. High-density drives I have used on other machines allow you to pack twice the data onto normal disks and use them in high-density mode (although this is not a recommended practice). Rather than having to keep tabs on two different kinds of floppies, I opted to double my floppy capacity with the other two drives, which together cost the same as the AEHD.

Al Mullen
Redford, MI



quo, paving the way for new generations of improved floppy drives on the Amiga.

AEHD Drive
Applied Engineering
3210 Beltline
Dallas, TX 75234
214/241-6060
$239
No special requirements.

VIDI-AMIGA

Grab it live

By John Wolfskill

A REAL-TIME frame grabber, Vidi-Amiga lets you capture video images from a black-and-white or color video source (a camera, laser-disc player, or computer) and display them directly using your Amiga's RGB monitor. The accompanying Vidi-Grab software allows you to replay a series of these lo-res (320 × 200), 16-color, gray-scale images as an animated sequence or store them as individual IFF-ILBM files for use with other programs.

Vidi-Amiga's hardware consists of a 3½-inch square box with a pair of controls to fine-tune the contrast and brightness of the incoming video signal. Inside is a high-speed (6 MHz), flash-type, four-bit converter chip that transforms the incoming analog video image into a stream of digital data. The data is temporarily stored in a high-speed, 32K RAM buffer before being transferred to the Amiga for processing. Because Vidi-Amiga captures low-resolution 16-color images, it can grab 50 frames of live or recorded video per second. The Amiga, however, can process and display the information at the rate of only three frames per second because of the data bandwidth limitations of its parallel port. An A500 with one megabyte of RAM can store a sequence of approximately 22 frames, with a capacity of 32 frames for each additional megabyte.

BLOCKED OFF

Installing the Vidi-Amiga system takes only a few minutes. You attach the box to your Amiga's parallel port (A1000s need a gender changer), plug the power cable into the Amiga's external floppy drive port, then install the Vidi-Grab software. For input, connect your NTSC video source to the Vidi-Amiga hardware via a standard video cable with male phono connectors at both ends.

Although A500 and A1000 owners won't have a problem, many A2000 and A2500 owners will. The box blocks the A2000's video connector, which makes attaching your RGB monitor cable impossible unless your A2000 is equipped with a video card in the video expansion slot. Also, the Vidi-Amiga hardware has no pass-through connector for parallel data and control signals, so you'll need to buy a switch box if you also want to use a parallel printer.

With the hardware setup complete, load and run Vidi-Grab. The program's VCR-style controls are intuitive and easy to use. Simply by clicking, you can grab and store a sequence of video frames, protect any captured frame in the sequence from being overwritten by subse- ►

quent grabs, adjust the playback speed, and save frames and sequences to disk. The image-editing options include a clipboard to cut and paste portions of frames and a quantize option that permits you to copy frames to unused locations within the sequence.

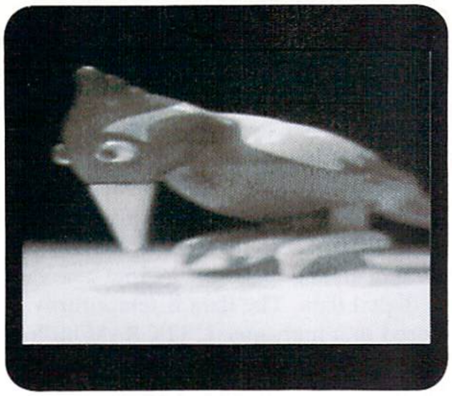
After you've captured and stored a sequence of frames, you can manipulate them using the program's editing and control options. Win is an overlay function that lets you record a video sequence as a partial screen window within an existing sequence. The Pal option allows you to reassign frames individually to one of the program's nine adjustable, 16-color palettes.

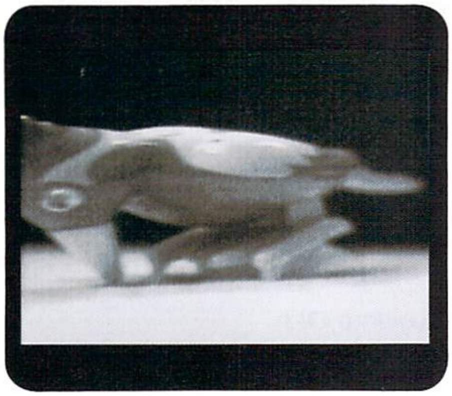
Mixed Reception

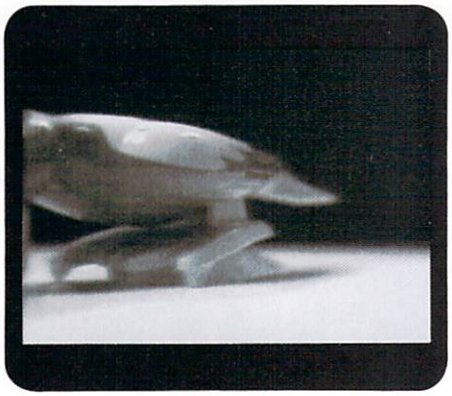
The first sequence of frames I captured came out ghostly. Light and dark blobs of pixels covered large areas of each frame. After checking my Amiga and the video source for potential problems, I called American Software Distributors (the US marketers of Vidi-Amiga). The representative told me that technical support was available only from Rombo Productions, the European manufacturer. A lengthly overseas call yielded no solution. Later, I discovered a misadjusted scan-width set screw was the culprit. Although the manual identifies the small recessed screw on the case's side, it doesn't explain that incorrect adjustment can cause blotching.

With the Vidi-Amiga hardware up to speed, I began to see some value in the system. Without muss or fuss, I grabbed several live sequences, saved them as IFF-ILBM files, loaded the individual frames into DeluxePaint III (Electronic Arts), and assembled them as ANIM files. Although the frames Vidi-Amiga generates are not of sufficiently high quality for serious production work, you can enhance their sharpness and clarity considerably by converting them to hi-res in DeluxePaint.

I also tested Vidi-Amiga with Vidi-Chrome, an optional $39.95 software package that lets you produce 4096-color HAM images using the Vidi-Amiga hardware. To process a color image, you point a black-and-white camera at a stationary object, then hold one of the supplied filter squares (red, green, or blue) in front of the camera lens. The Vidi-Amiga hardware grabs a single frame of







"One, two, three. . .real time!"

information from the source and stores it in RAM.

You repeat the process for each of the three color planes, and then select the Create HAM option from the program menu to build a HAM image. However, after several days of experimenting with various video cameras, lighting conditions, and a multitude of brightness, contrast, and program settings, I could not produce what I considered an acceptable image.

I ended up with mixed feelings about Vidi-Amiga. Unacceptable Vidi-Chrome software aside, the system worked essentially as advertised. If you like to experiment with video and animation, it has much potential for a reasonable price, but if you're looking for a dependable and easy-to-use system that lets you quickly grab and process high-quality color images, I suggest you dig deeper into your pocket and look elsewhere.

Vidi-Amiga
Rombo Productions
Livingston, Scotland
0505-414631
$199.95
No special requirements.

Distributed in the US by:
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Urbana, IL 61801
217/384-2050
800/225-7941

ADAPT

The Rolls Royce of assemblers

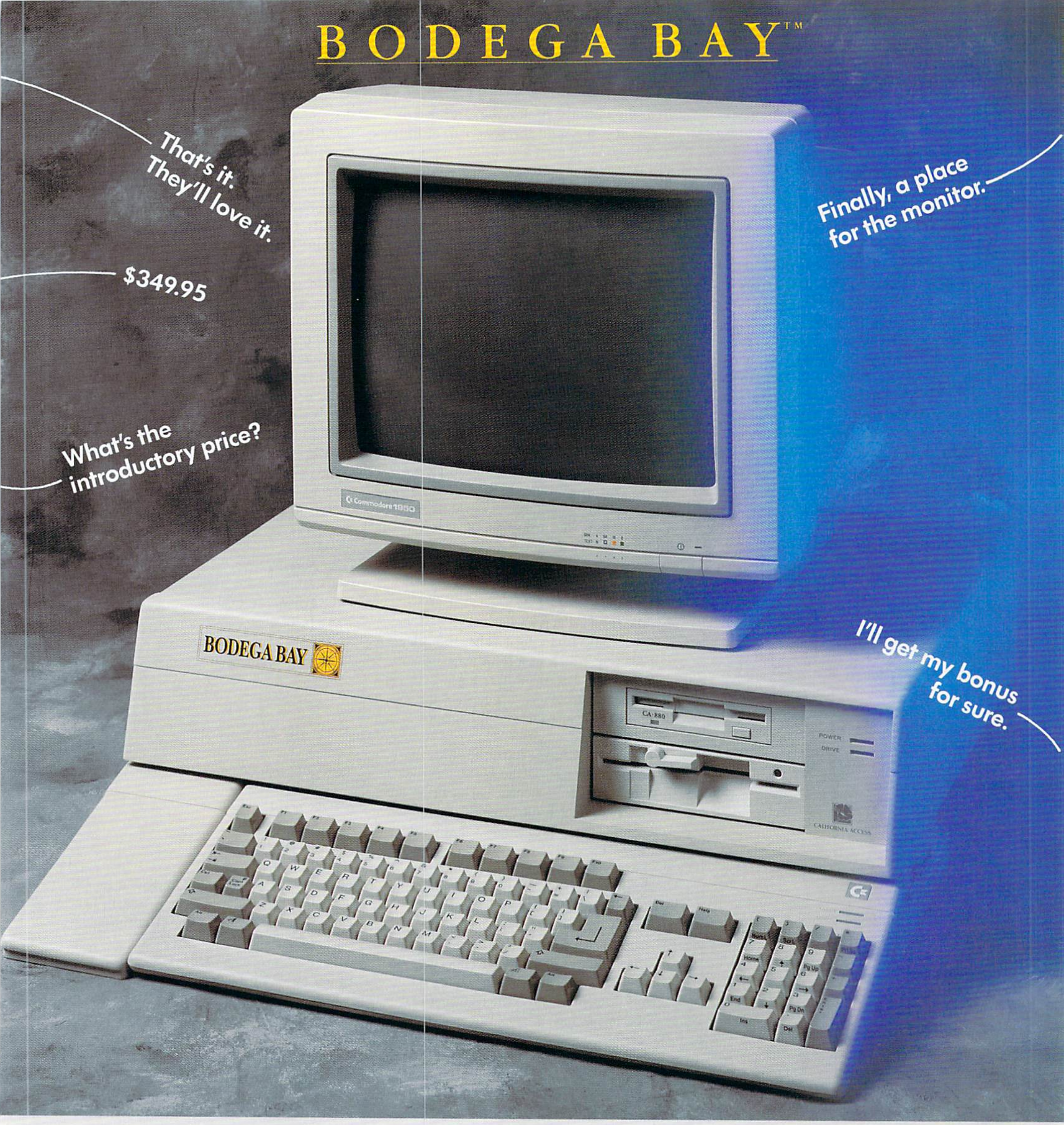
By Bryce Nesbitt

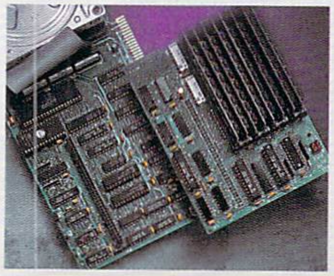
IF FEATURES ARE what you want in a 68000 assembler, ADAPT (Amiga Developer's Assembly Programming Toolkit) is the one to buy. It is the most feature-laden of all such packages currently on the market. While most assemblers support only the original 68000 processor, ADAPT supports all current 68000-series microprocessors and coprocessors, including the 68000, 68010, 68020, and 68030, the 68881 and 68882 floating-point coprocessors, and the 68030 and 68851 Memory Management Units. Developer Lake Forest Logic is even working on support for the 68040 processor—a chip not yet available for sale.

ADAPT was written by the author of the CAPE 68K assembler package from INOVAtronics. (CAPE and six other assemblers were reviewed on p. 16, Oct. '88.) Not surprisingly, ADAPT starts where CAPE left off.

What's Here

Like the CAPE assembler, ADAPT's ►





The Malibu Board™ SCSI Controller and Catalina™ Ram expansion daughterboard.

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CALIFORNIA ACCESS™

Your Access To The Future

HX68 assembler, the heart of the package, supports a bewildering array of options and switches. Highlights include base-register addressing, direct executable generation, overloading regular instructions with macros, direct binary generation and the ability to pre-assemble include files for greater speed of assembly. HX68 supports a healthy set of code optimizations, which allows the assembler to automatically choose the best way to generate your code.

HLink is a small, fast, limited-capability linker. It supports most of the features that assembly programmers need, without the overhead or speed penalty inherent in the ALink and BLink linkers that other products employ. (Although ADAPT fully supports ALink and BLink, these are not part of the package.) With HLink, you miss out on overlays, some map-file options, prelinking, and batching ability, but gain the power to output in S-Record format, a standard used in PROM programming. You can control both HX68 and HLink via ARexx.

HProf is a run-time profiler designed to help optimize code for speed. It wakes up every few milliseconds to record the part of the code that's executing. When your program finishes, HProf prints out statistics. Unfortunately, HProf has some severe limitations. For example, only samples within the first hunk of a program are counted; large complex applications do not profile. Also, HProf shows only your code; statistics for operating-system functions are not possible. HProf is the only part of ADAPT that does not function under AmigaDOS 2.0.

PMA, the Program Module Analyzer, allows you to examine the insides of any object file or executable program. It provides options to dump CODE, DATA, and 68000 instruction timings, and to analyze the hunk structure of files.

Table 1. ADAPT-able vitals.

The following chart gives you ADAPT's vital statistics at a glance. For those wishing to compare ADAPT to the seven assemblers covered in the Oct. '88 issue, I used the same test file to clock assembly speed and listed the same criteria used in that chart. Please note that although 68030 support is not listed (that processor was not available at the time of the '88 review), ADAPT does offer it.

Base relative code?	Y
Linkable code?	Y
Direct to executable?	Y
Absolute code?	Y
68010 processor?	Y
68881 floating point?	Y
68020 processor?	Y
Optimize backward branches?	Y
Optimize forward branches?	N*
Debugging symbols?	Y
Debugger at base price?	N
Speed (in seconds)	15
Temporary labels?	Y
Listing flexibility	good
Chip and/or fast RAM control?	Y
Estimated compatibility**	99%
Documentation	fair
Minimum "working" size	80K

* gives a warning for non-optimal branches but does not fix them

** with Metacomco standard

AND WHAT'S NOT

Unlike the CAPE package, ADAPT does not include a text editor. This should not present much of a handicap, however, as most programmers already have a favorite editor. You can control the assembler from any editor that supports ARexx.

The manual has a spiral binding that allows it to lie flat on the table. On the inside, however, it needs work—or at least an index. I found myself constantly searching, page after page, for the information I needed.

One optimization feature conspicuously missing from HX68 is the ability to automatically turn long forward branches into short forward branches. This means you must either spend a lot of time fiddling with the ".s" specifier on branches or live with bigger code. While HX68 does point out which branches can be improved, it does not perform the action.

ALL IN ALL...

Lake Forest Logic provides support for ADAPT on the BIX and PeopleLink electronic networks and also on their direct-dial BBS (bulletin-board system). Although the Lake Forest BBS was busy when I tried it, response to my queries on BIX was quick and satisfying. The documentation promises an ADAPT Extras disk, filled with examples and utilities, upon return of the registration card.

The assembler performed well in all tests, never crashing, corrupting data, or assembling code incorrectly. I used ADAPT to assemble several large projects, including a large chunk of the Amiga system ROM, and detected no errors or problems.

The extended processor support works satisfactorily, too; other assemblers I have tested often assemble the more obscure extended instructions incorrectly or confuse new and old addressing modes.

ADAPT is a mature and stable product. It provides everything you are likely to need in an assembler package. If you plan working heavily with assembly language, or if you have outgrown your present assembler, ADAPT is a safe choice.

ADAPT
Lake Forest Logic
28101 Ballard Rd., Unit E
Lake Forest, IL 60045
708/816-6666
$119.95
No special requirements.

TV*SHOW 2

The second generation strikes out on its own

By Gary Ludwick

IF THE NAME sounds familiar, it is. TV*Show was a slide-show program included in the original TV*Text titling package.

Free no more, TV*Show 2 is now a much more sophisticated program with a huge variety of effects and controls, and the "slide show" label doesn't begin to do it justice.

CUT TO WIDE OVERVIEW

While slide-show programs are mostly limited to presenting graphic images in succession, TV*Show 2 goes much further. Not only can it display any IFF graphic file, but it also handles Anim5 animations (produced by DeluxePaint III from Electronic Arts and other pro- ►



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A high degree of component integration allows the Nexus to combine a SCSI interface, a 3.5" hard drive and 4 megabytes of memory on a single card. Mounting your 3.5" hard drive directly on the card leaves your drive bay open for future expansion.

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Nexus Software

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With its intuitive user interface, PowerBench lets you take charge of your Amiga. Click on a graphics file to see it, a sound file to play it, a text file to read it and that's only the beginning.

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DiskSurgeon
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Circle 5 on Reader Service card.

grams) and integrates free-standing, sound-effect files. In addition, the program can harness the Amiga's internal speech capability to provide spoken narration for your presentation.

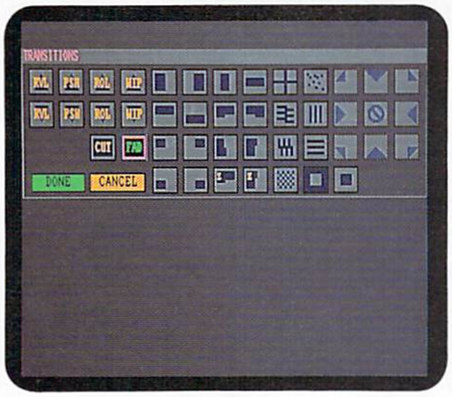
TV*Show works on the basis of a script that the program generates as you make choices in Editor mode. In simplest terms, you begin by creating an "event": the selection of a single picture, an object (brush), an animation, color cycling, a program or animation loop, or the assignment of an action to one of the Amiga's function keys.

Once you have chosen an event, an editing window opens to let you determine how that event arrives on the screen and leaves it, how long it remains there, which sound effects or speech will accompany the event, and color cycling. You can even select delays between the events. While that description adds up to just one paragraph of words, it represents more power and flexibility than has ever been available before.

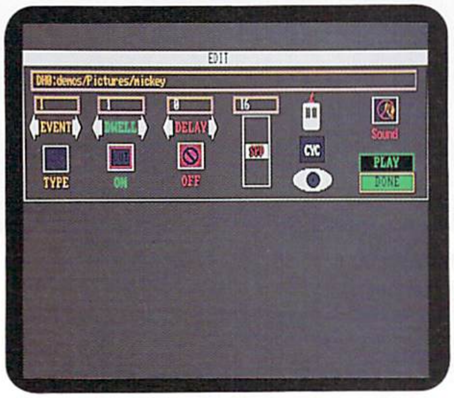
Fade to Closeups

The two aspects of editing that best illustrate the power of TV*Show are its Transitions menu and its sound capabilities.

Looking almost identical to a television-studio switcher board, TV*Show's Transition menu offers more choices than Brigham Young had wives. On the left third of the panel are gadgets for eight varieties of whole-screen pushes, reveals, rolls, and wipes, plus Cut and Fade boxes. The center section offers a choice of 25 pattern wipes—from checkerboard to venetian blinds—that introduce or clear the image. Finally, 12 symbols in the upper-right third of the panel allow you to move objects from any edge of the screen to the center. That's a lot of effects, and each is completely programmable in terms of speed and duration.



Make your moves in the Transition menu.



It's all in the timing.

Although the speech and SFX (sound-effects) controls are not as extensive as those for visual effects, their capabilities bring a new dimension to slide-show programming. Choose the Soundtrack icon from the Edit menu, and you are taken to a soundtrack-editing facility.

For spoken narration, you must import words into a speech file from a text editor or word processor in ASCII format. The soundtrack editor allows full control over playback speed and volume and, in the case of spoken text, lets you choose a male or female voice and select either expressive or robot-like delivery. As with graphic images, you can loop or repeat sound effects any number of times.

Although you can synchronize sound tracks with images and animations, the Amiga's internal priority for images over sounds can cause occasional problems, both for synchronization and for playback quality. A little care in planning, however, can overcome this hardware limitation.

Playback

TV*Show can handle images in any combination of resolution, overscan and screen depth, including HAM and Extra Halfbrite modes; the only limitations appear to be chip memory and taste!

You can either time playback or advance the frames manually by using the mouse or function keys. In fact, you can even use function keys within the scripting process to provide an interactive video function that lets viewers decide which sections of the video show they wish to see. With a little practice and a genlock, you can also use TV*Show in a video-editing session as a special-effects generator and video switcher. Using color 0 as a transparent background, you can animate charts, graphs, titles, and even captions over live video with relative ease.

TV*Show is not nearly as easy to use or as intuitive in its interface as Elan Performer, another very good image-display program. But while Performer lacks transitions and effects, TV*Show is teeming with them. TV*Show also earns high praise for its power, flexibility, and sound capabilities. As usual, you pay for power

YOUR TURN!

TV*Show 2 is a great companion to TV*Text. The two programs interface well together, and both are friendly.

TV*Show 2 is fairly intuitive and nicely laid out. I had it up and running in 30 minutes, and almost didn't need the documentation to learn the software. The manual serves very well as a reference for the program's finer details, but could benefit from greater detail and more examples. I would also like to see more transitions, including finer dissolves.

For the work I do, I don't need anything tremendously powerful. TV*Show 2 suits me well. I use it all the time!

Joe Rose
Santa Maria, CA

YOUR TURN!

I like TV*Show 2 very much. I'm a video producer, and find it nice for the kinds of titling I do. It's also easy to use. It tends to crash a little more than the first version, but it has so many more features that I don't really consider that a problem.

TV*Show and TV*Text, Zuma's text generator, work well together; in fact, you really need TV*Text to make effective use of TV*Show.

Curtis Cox
New Orleans, LA

Continued on p. 122

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w/MNP-5 and AE Send-Fax	**$349**
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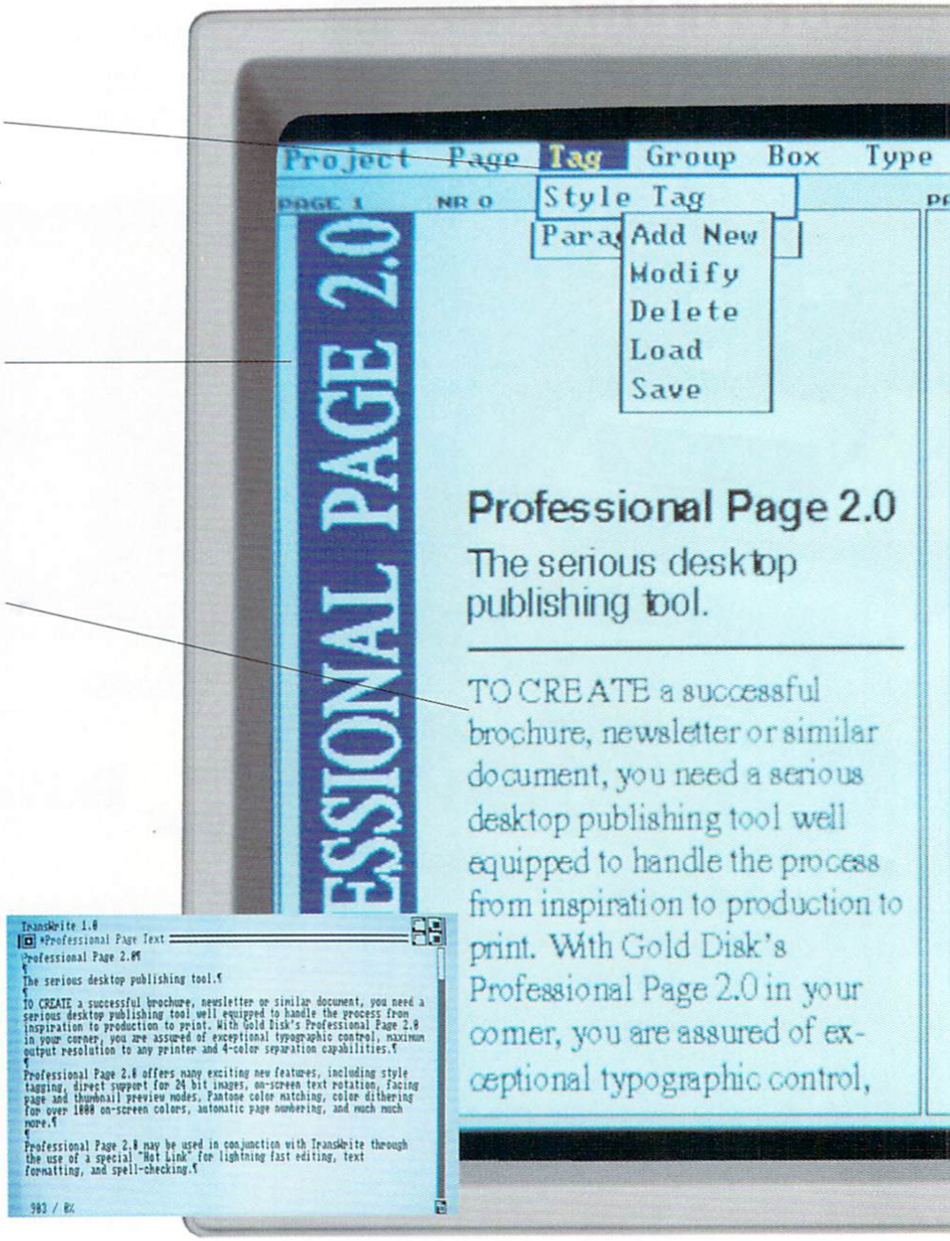
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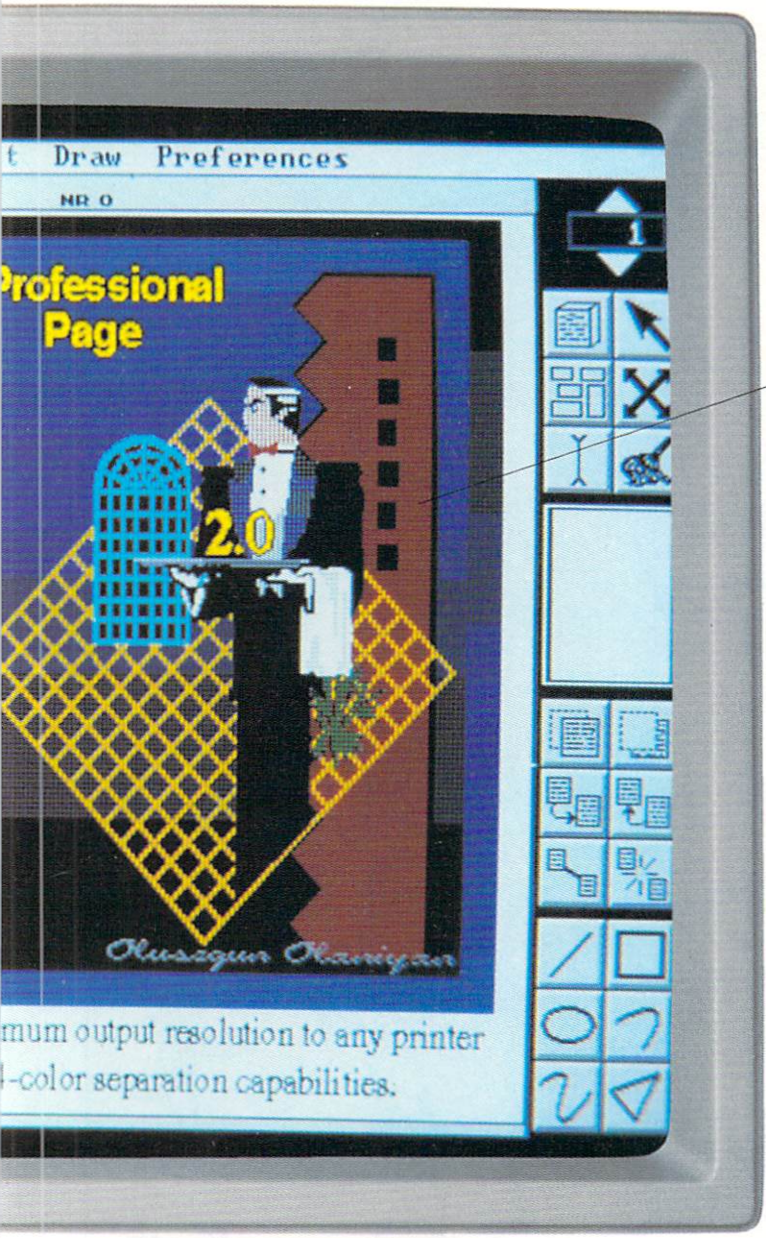
ADVANCING THE ART OF

Gold Disk has a publishing program that gives you more creative control over your desktop documents: **Professional Page 2.0**. Designed for the serious Amiga user who is concerned with sophisticated typography, color design and separation, and production control, this powerful publishing package gives you professional results.

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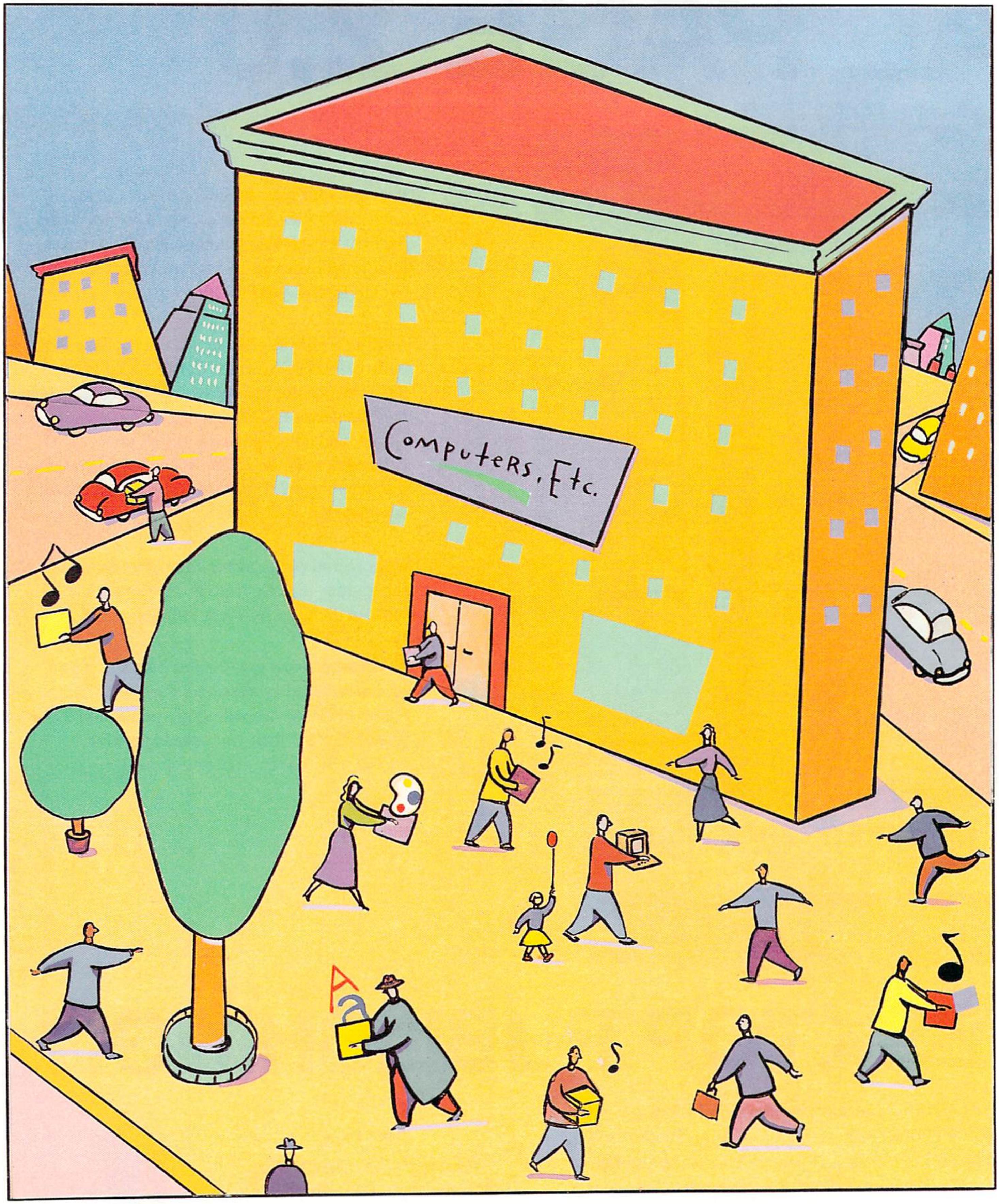
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ILLUSTRATED BY CATHARINE BENNETT

AMIGA WORLD

·M·I·N·I· Buying Guides

Check out some valuable buyer's guidelines as we rate the leading contenders in several popular categories of Amiga software.

Whether you're shopping for the right program for your favorite Amiga enthusiast or just shopping around for a good buy for yourself with some extra holiday cash, check out the *AmigaWorld* Mini Buying Guides in the following pages. For the 1990 holiday season, we have selected three popular applications areas: Graphics/ Video, Music, and Communications. Within each of these broad fields, we have focused on a specific product category to evaluate and compare leading software in terms of performance, price, features, and individual program strengths.

In the graphics/video area, we'll examine 5 **Video Fonts** packages that handle a variety of titling and text-overlay tasks. In the music field, we've singled out 12 **MIDI Sequencers** that will suit the requirements of both amateur and professional Amiga musicians. Finally, we'll look at 10 **Telecommunications** programs that meet your on-line services needs.

Feedback from readers has convinced us that product comparisons like these are more useful than the previous *AW* Buyer's Guide, which, despite being comprehensive, was able to devote only one brief line of description to each product. Therefore, we have decided to be more selective and detailed in our coverage. You have been telling us you want more product *evaluations*, buying *advice*, and *comparisons* of programs in terms of features, performance, and value. We've been listening.

In addition to the three product categories presented here, we have also cited similar comparative pieces (see the box below) that have run in *AmigaWorld* in 1990, which we hope will aid you in your software and hardware buying this holiday season.

—***Dan Sullivan***

More 1990 *AW* Product Roundups

Optical Scanners
"Scanning the Competition," p. 20, 1990 Video & Animation Special Issue

Paint Programs
"Gang of Four," p. 48, Special Issue

Genlocks
"Who's in Sync?" p. 54, Special Issue

Video-Titling Programs
"Say It With Style," p. 62, Special Issue

Image-Processing Programs
"Global Operations," p. 112, Special Issue

MIDI Editor/Librarians
"Patchwork," p. 26, Mar. '90

Word-Processing Programs
"Word Power," p. 44, Jul. '90

Archiving Utilities
"Pack It In!" p. 46, Aug. '90

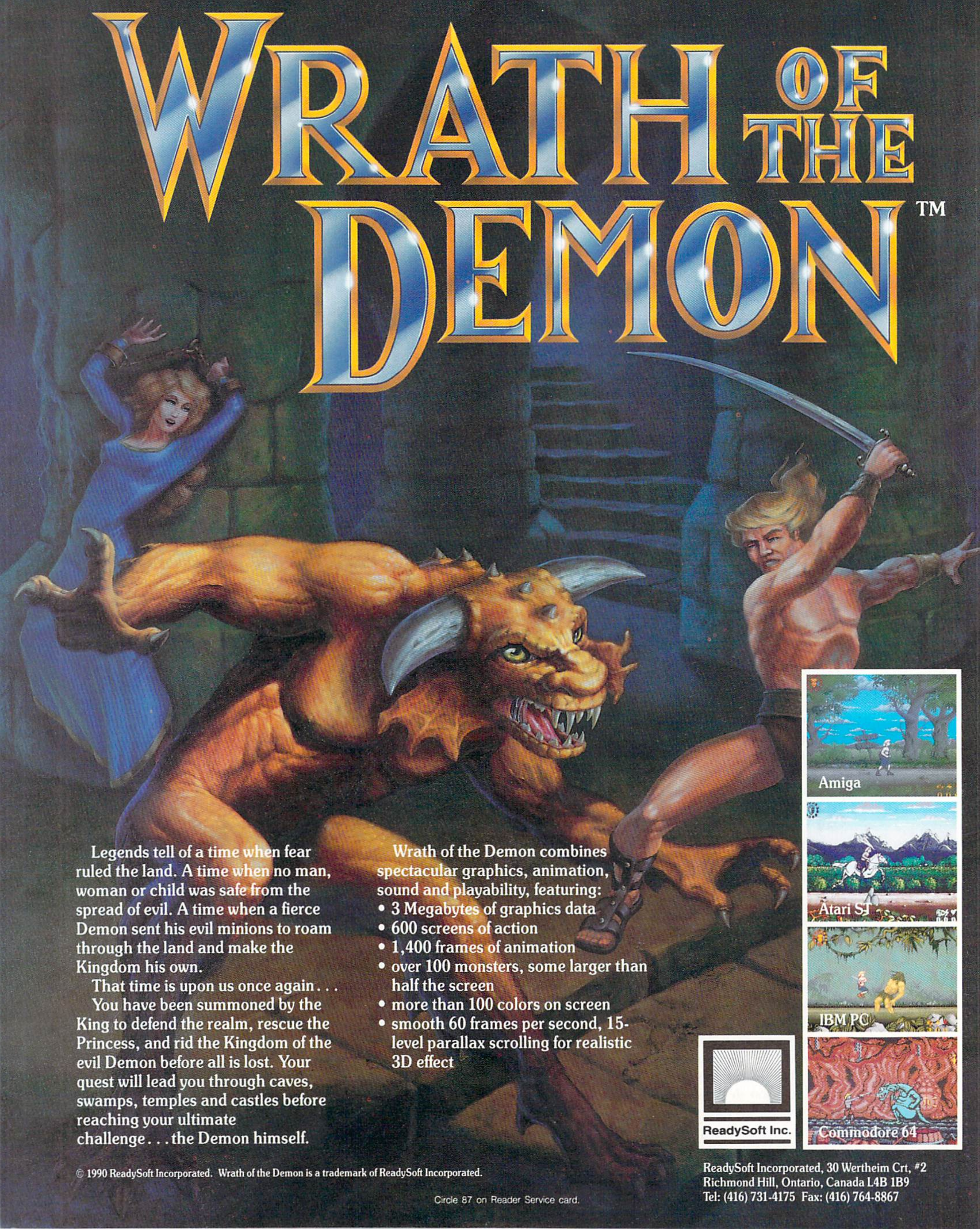
Animation Utilities
"That Ain't All, Folks!" p. 30, Sep. '90

Video Equipment
"The Studio Builder's Reference Guide," p. 30, Oct. '90

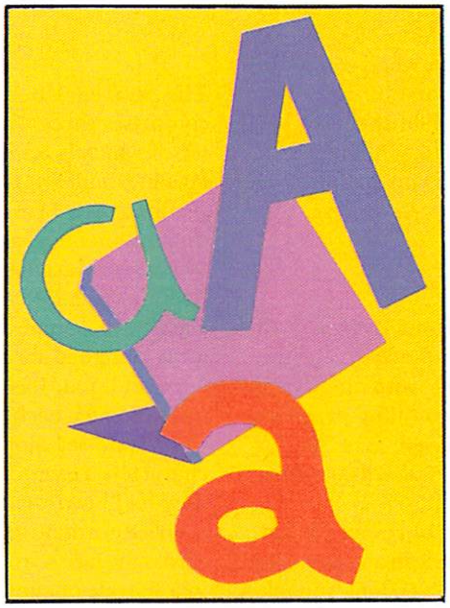
Networking Products
"Playing Closer to the Net," p. 48, Nov. '90

Games
"Top Ten Games," p. 26, Nov. '90




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Video Fonts



Choosing a well-designed font set is an essential consideration in the creation of almost any kind of commercial work on the Amiga. Desktop video, especially, relies on the use of good-looking fonts for titling and text overlays. The descriptions of five leading Amiga font collections below—and the comparison chart that follows—are designed to help you select the best font packages for your video work.

Although many users generally take font packages for granted, the people who design them fortunately do not. An enormous amount of work goes into the creation of a set of fonts. Each letter, both upper- and lowercase, along with all of the punctuation marks and numbers, must be carefully designed. They must all have the same style and a consistent look; even small discrepancies can be perceived with little more than a casual glance. Font design requires a great deal of skill, a keen eye, and a lot of knowledge about how type should be constructed. The results of such expertise and effort are clearly evident in the best font collections.

Masterpiece Fonts

The largest collection of fonts for the Amiga is **Masterpiece Fonts**, from ARock Computer Software. There are five sets, comprising 110 different font styles, and, unlike many collections, most of them are acceptable for video work. (See the sidebar "Choosing Fonts for Video" for guidelines determining whether particular font sets are appropriate for use with video.)

At $199 for the complete 20-disk collection, it is the most expensive font package on the market. You do get your money's worth, however, because you also get 144 screens of border art and two disks of brushes. While it is possible to buy the sets individually, I would never be able to decide which parts of which sets I needed most.

Instead of being designed on the Amiga, the fonts were digitized and then cleaned up. To create this many fonts from scratch would probably have taken a lifetime.

A problem with this collection, though, is its organization. There is no separation of the fonts into categories or types, so you have to flip through all five manuals to find the font you want. For instance, font 97 (the fonts are given numbers rather than names) is a negative version of font 100, with two pages separating them in the manual; they should be side by side. I will probably wind up disassembling the manuals and reorganizing them into various categories, something that the developer should have done.

Included with the disks are six manuals (one is for the border-art collection), with a printed version of the full character set of each font and instructions on assigning and moving them. Overall, there are a lot of usable fonts for the money. Skip the ColorFonts, however, as they are poorly executed.

Professional Font Library

Classic Concepts' **Professional Font Library** ($79.95) wins hands down in the category of best manual. Besides a great deal of useful information on Amiga fonts in general, it also contains specific information on using fonts with 15 different programs and on how to use fonts in programming, video, photography, and for effective printouts. The manual is well organized and provides full character-set printouts as well as a font-reference summary and a listing of disk contents. There is even an index! I wish all manuals were this well done.

While most of the fonts are more appropriate to printing, there are still many you can use for video. I especially like the ColorFonts, which are well designed, attractive, and useful. Some of them, however, do use colors that are too hot for video and must be adjusted.

A lot of care went into the design of these fonts. They are well kerned ("kerning" refers to the space between individual characters), and you have pixel-width control over the kerning, which is important for making the text look balanced and properly designed. This is much easier ►

By Geoffrey Williams

than having to cut the letters out as a brush and stamp them down to kern them. Baselines, underscores, and line spacing are all handled properly. The Classic Concepts people know fonts.

To make life easier, they have also included some very useful font utilities. Fontpath lets you assign new font directories from the Workbench. Preview shows you all the characters of a specific font. Most useful of all is Super Font Mover. Normally, when you move fonts to another disk and delete some of the sizes, you have to run FontFixer to update them. Super Font Mover works just like a directory utility, but it automatically fixes the font for you if you do not move all of the sizes.

Zuma Fonts

There are five volumes of **Zuma Fonts** (with a sixth promised by the time this article appears in print). The first three volumes come free with the Zuma Group's TV*Text Professional video-titling program ($169.95), or they can be purchased as a set for $59.95. A second set (Vols IV–VI) is also available at the same price.

Each font style comes in both a hi-res and a medium-res version, and each is available in a wide range of sizes. All styles have large, bold versions suitable for video. The fonts are attractive and professionally designed.



Each set comes with a six-page pamphlet that gives you basic instructions on use, but I would like to see a full character-set printout of the fonts.

There is also a FontLibrarian utility that lets you view, copy, and delete fonts, as well as make customized font paths. A panel of 12 buttons allows you to select customized font libraries that you create. These libraries assign only the fonts and sizes you want to use. The same font directory could be set to display sizes for desktop publishing only or sizes for video only.

Kara Fonts

The Mercedes-Benz of the font world, **Kara Fonts** comprises three ColorFonts packages, every character of which is a work of art. Not only is pixel-width kerning built in, but you can also pick up most of the fonts as a brush and drag them to create three-dimensional edges.

Currently available are: Headlines ($79.95), Headlines 2 ($69.95), and Subheads ($69.95). Each of Kara's fonts come in two or three large sizes specifically designed for video applications.

In addition, there are also three AnimFont packages ($49.95 each). Each consists of one complete ColorFont set along with an ANIMbrush of each character. Letters in ChromeSCRIPT appear as if they had been written across the screen. Bullion has each letter rotate towards you as a glint of light streaks across the face. Capsule is a rounded font that appears in a sparkle of glints. They are unique, beautiful, and I would not want to be without them.

Gold Disk Type: Video Series

Deciding what fonts to include in a package is tricky. Providing many different sizes takes up a lot of disk ►

Choosing Fonts for Video

THERE ARE A few simple rules for determining whether a font is suitable for video. Most important, it must be big enough to be easily read from a distance. Move several feet away from your monitor and see if the text is still legible. Most fonts smaller than 20 pixels in height are too tiny to be used in video work. The other rule is to avoid fonts with single-pixel-width lines. The fine detail may be lost, and the thin lines will cause annoying flicker.

There are simple techniques, however, to make even unacceptable fonts work. Type in your text in DeluxePaint, pick it up as a brush, then move it down one pixel and stamp it again. As you can see on the left side of Figure 1, this fattens up the horizontal lines and makes them a lot more legible. In an outline font, such as the one on the right in Figure 1, you can pick up your text as a brush and use the o key to fatten up all of the lines. For fonts with fine detail, where these techniques will not work, you can always fatten up the thin lines by hand. It is much easier, of course, to use a font that works well with video in the first place.

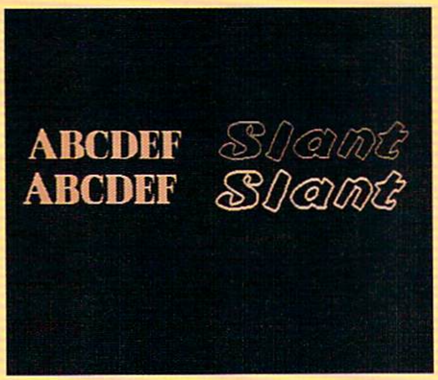


Figure 1. Examples of fattening up certain fonts too fine to be suitable for video work.

Certain ColorFonts may employ color settings that use illegal NTSC (National Television Standards Committee) colors, which creates problems when transferring them to video. A general rule is that all the color settings in your palette should be set to 12 or lower (except for grays). You may have to adjust the ColorFonts to get acceptable video colors. □

—GW

PERFORMANCE...

Saxon Publisher — The inevitable product of development with efficiency foremost in mind. Its quality has made it the first desktop publisher to be certified compatible under **Workbench 2.0** while its advanced capabilities have attracted a loyal following of satisfied customers:

> "...Saxon Publisher is by far, the best desktop publishing program to use in any professional setting. Not only is it the fastest and most dependable, but it also provides the highest quality, most accurate color separations of any Amiga program...Technical support has always been excellent. " — **Mike Gritten, Technical Director, Visual Effects, Inc.**

> " The combination of Saxon and ProVector™ gives the Amiga just what it needs, and though I own all of the publishing programs, I' m using Saxon almost exclusively. With an AegisDraw or XCad import module and more fonts, I could free up a lot of hard disk space by deleting PageStream, ProPage, and CityDesk...Congratulations on an outstanding first effort! " — **Mark Needham, graphic designer, Good Idea!, Inc.**

> " Thank you for an excellent desktop publishing product. I' ve used Saxon Publisher for a week now and have been very impressed with both its power and ease of use. It has many of the features I' ve long waited for in a DTP program on the Amiga. The use of text and style tags alone would be worth the cost of the program.
> ... I was especially impressed by the clarity of the Monologue and Colorlogue files. It is rare to see clear and well-commented PostScript prologues. Obviously somebody in your organization cares about this product. " — **Joseph Simunac, Kansas City, Mo.**

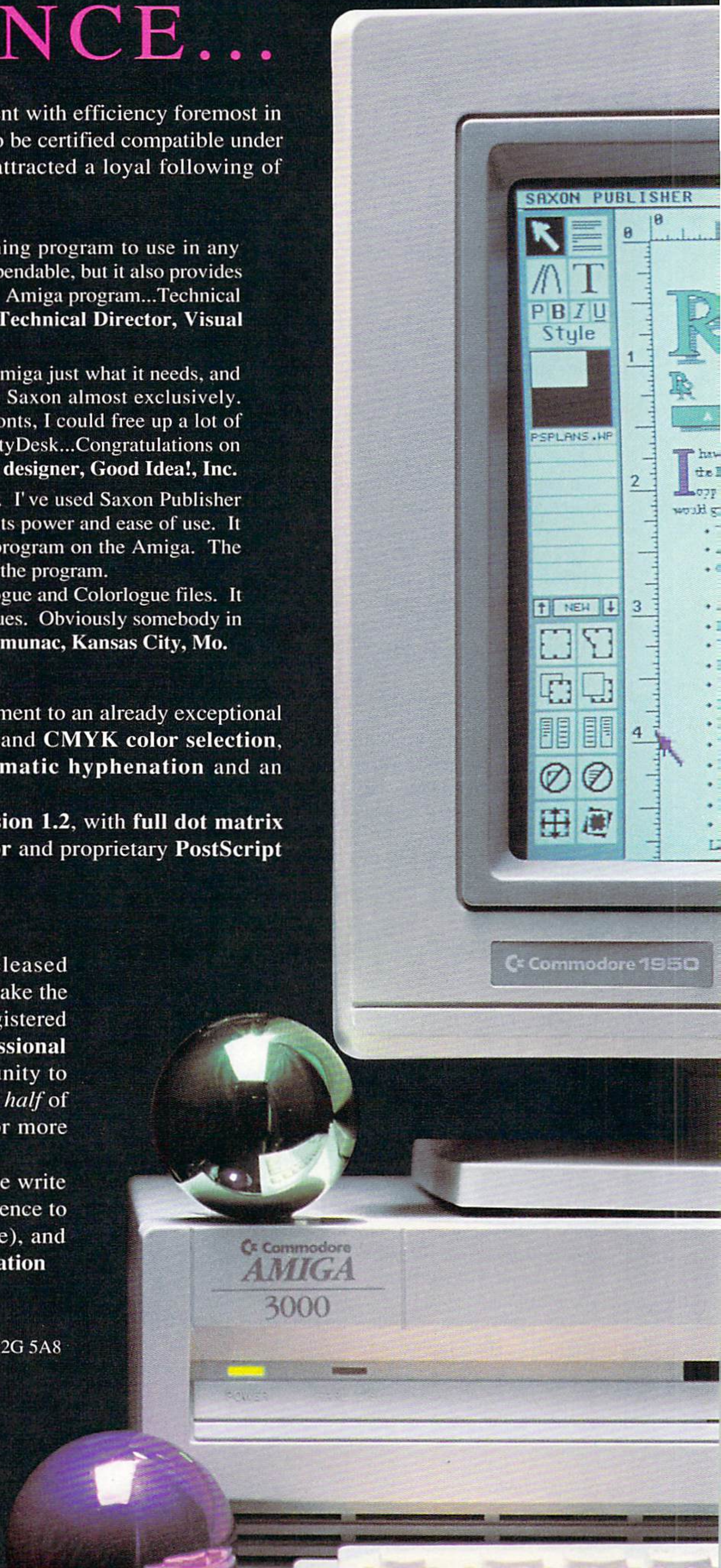
Currently available is **Version 1.1**, a substantial improvement to an already exceptional program, incorporating such new features as **Pantone** and **CMYK color selection**, **variable tabs**, **point** and **pica measurement**, **automatic hyphenation** and an intelligent approach to **manual kerning**.

The first quarter of 1991 will see *Saxon Publisher* **Version 1.2**, with **full dot matrix and Compugraphic support**, an **integrated text editor** and proprietary **PostScript compression routines** for faster output.

Trade-In Offer

With a host of powerful support products to be released throughout 1991, there has never been a better time to make the switch to *Saxon Publisher*. Until **January 10, 1991**, registered users of *any* other Amiga desktop publisher, i.e., **Professional Page**, **Page Stream**, **City Desk**, etc., have the opportunity to upgrade to *Saxon Publisher* for only **$199.00**, at less than *half* of the suggested list price! Please contact us directly for more information about this special, limited-time offer.

For additional information about *Saxon Publisher*, please write to us or give us a call. Enclose **$2.00** in your correspondence to cover shipping and handling (refundable with purchase), and we'll also send you a copy of our **self-running demonstration program**.



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Video-Titling Tips and Tricks

IT IS DIFFICULT to make single-color fonts stand out when they are genlocked over a live video background. Fortunately, there are a number of simple techniques you can use in DeluxePaint III to make your text eye-catching.

The simplest method is to pick up the text as a brush, select a contrasting color from the palette, and press the o key. This puts an outline around your text in the selected color. Remember that single-pixel-width lines do not show up well in video, so press the o key at least twice. You will be amazed at how much more readable your text becomes.

Drop shadows and three-dimensional edges can also help. Pick up the text as a brush and press F2 (Color mode); then select the color of your choice. Stamp the colored text onto the screen and press F1 to restore it to its original color. Depending upon how much you offset the original text when you stamp it down, it will appear as either a drop shadow or a 3-D extrusion.

Another interesting effect is to use hollow text and give it outlines. Pick up your text as a brush and hold the Shift key down as you press the o key. This removes a single-pixel width from around the text. Do this two or three times. Press F2 and select a contrasting color. Line up the reduced text over your original so that it is centered, and stamp it down using the right mouse button. This stamps the text down in the background color, cutting out the center of the text. To create a neon effect, pick up the hollow text as a brush and outline it with light-to-dark shades of blue.

ColorFonts show up much better against a busy background than mono-color fonts, but most take up the first eight colors in your palette. What do you do if you want to use two different ColorFonts with entirely different palettes? It's easy. Load in the first eight-color font and use its palette. Exchange all of the font colors with colors in the next color row in the Palette requester. The font colors on screen will be all messed up, but go to the Picture menu and select the Remap option under Change Color. After a second or two, your on-screen font colors will be restored, but their position in the palette will not change. This frees up the first eight palette positions. Load the next eight-color font, use its colors, and they will be placed in those freed-up palette positions without affecting the palette positions of your first font. □

—GW

space, and, while one large size that can be reduced seems a good idea, fonts do not always resize properly. Identical letters may come out slightly different when picked up as a brush and reduced. Using the h key to reduce them (to half size) is the only way to ensure that proportions are properly maintained.

Gold Disk may have a better solution: Compugraphic fonts. Two Compugraphic font sets are included with the latest version (1.3 – 2.0 is scheduled for release by the time this appears) of the company's Professional Page ($395), and it has recently released several collections for individual purchase. Rather ►

Smooth Titling Moves: Antialiasing

RESOLUTION IN VIDEO does not allow for absolutely straight, angled lines and smooth curves, so many fonts will have a jagged appearance (as in the magnified example in the top part of Figure 2). The method used to make these jagged curves and angles look smooth is a process called antialiasing. Additional pixels of color merging from the font color to the background color are added, blurring the edges of the font into the background. It fools the eye and makes the font look smooth.

You can antialias any font in DeluxePaint III. The simplest way is to add a range of colors between the font color and the background color and use DPaint's Smooth function. This does serve to reduce the apparent thickness of the font, and if it is used over the entire font, as you see in the middle part of Figure 2, the text tends to look blurry. Use antialiasing only on jagged lines; leave the straight, nonjagged lines alone.

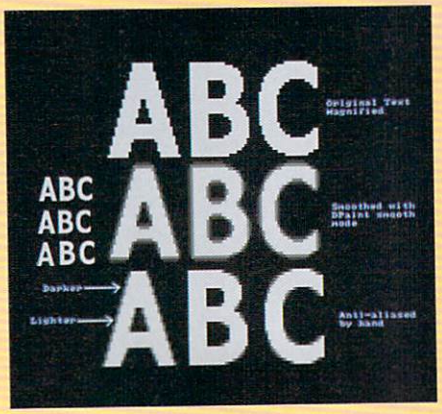


Figure 2. Antialiasing smooths out fonts with jagged edges caused by poor resolution.

The bottom part of Figure 2 was done by hand. I used two colors between black (background) and white (text). I added the lighter color (closest to the text color) on top of each jagged pixel. I then placed the darker color next to the lighter pixel. □

—GW

VIDEO FONTS COMPARISON

NAME OF SET	Professional Font Library	Masterpiece Fonts	Zuma Fonts (I–III and IV–VI)	Kara Fonts (6 sets)	Gold Disk Type: Video Series
MANUFACTURER	Classic Concepts	ARock	Zuma	Kara	Gold Disk
PRICE	$79.95 Complete set	$199 Complete set	$59.95 Per set of three	$49.95–$79.95 Per set	$59.95 Complete set
FEATURES					
Total Fonts	68	120	15	28	3
Video Fonts*	17	100	15	28	3
Color Fonts	13	10	0	28	0
Sizes Per Font	2–7	1	6	2–3	Unlimited
Point Size Range	7–88	78–160	12–100	55–104	Unlimited
Full Sample Printouts?	Yes	Yes	No	No	Yes
Font Utilities?	Yes	No	Yes	No	Yes
Adjustable Letter Spacing?	Yes	No	No	Yes	No
RATINGS**					
Design	9	9	7	10	10
Aesthetic	9	4	8	10	10
Documentation	Excellent	Good	Good	Very Good	Good

NOTES:

* Fonts designed specifically for video. Some fonts, although designed for printing, serve perfectly well for use in video. Fairly simple techniques exist to make some other nonvideo fonts acceptable. For more information, see the sidebars "Choosing Fonts for Video" and "Video-Titling Tips and Tricks," as well as the individual sections on each font.

** The "Design" and "Aesthetic" ratings are based on the evaluations of Ernie Potvin, a professional font designer for over 30 years. The Design rating is based on the percentage of fonts that follow basic rules of typographic design—with 10 being best. The Aesthetic rating is based on the designer's overall choice of fonts, execution, and variety—with 10 again being best. Documentation quality was rated on the amount of useful information provided on using the fonts—in general and with specific programs—as well as on clarity and layout.

than bitmapped, these fonts are created from outlines that can be rescaled and rendered on screen with a minimum of jaggies. They look well in any size.

The **Gold Disk Type: Video Series** ($59.95) is a set of three Compugraphic fonts that Gold Disk suggests for video work: Futura II Bold, Clarendon, and Dom Casual. It also includes a utility that will scale and convert any of the fonts into bitmap Amiga fonts that can be used with DeluxePaint III ($149.95, Electronic Arts).

The advantage of this approach is that you can make any size font you need—as you need it. Any of the other Compugraphic font sets can be used as well. Compugraphic fonts are more expensive than standard bitmap fonts, and consequently there is a smaller selection to choose from. There are no colored or ornate fonts, because they are designed primarily for print. Even so, they are a very useful addition to your font collection, especially as they can be used as bitmap Amiga fonts, down-loadable Postscript fonts, and scalable screen fonts for Professional Page.

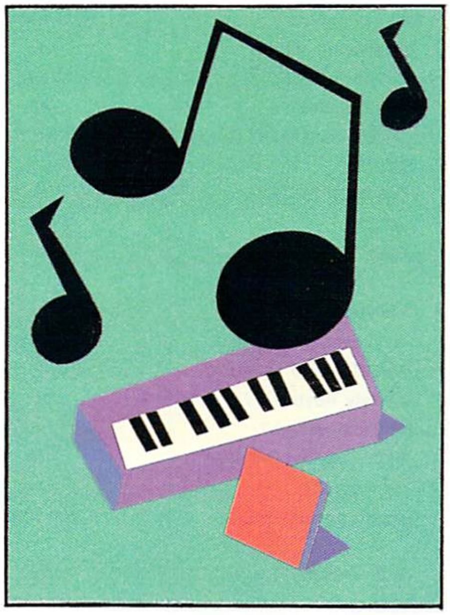
In summary, I would choose Kara Fonts as the best designed and a "must-have." The Professional Font Library is a good choice if you want a well-documented variety of professionally designed fonts, including smaller sizes and video fonts. Some of its ColorFonts have the design strength of Kara Fonts, and the utilities included in the package are most useful.

The Masterpiece Fonts collection suffers from poor organization and too many similar fonts, but you still get a lot overall. Zuma Fonts includes a number of classic fonts and offers a wide variety of sizes and versions designed for medium-res. Its FontLibrarian utility alone is almost worth the cost of the disk. The Gold Disk Video Series provides high-quality, scalable fonts that work well when you need a variety of sizes in any resolution. ■

Geoffrey Williams is Executive Producer for Creative Business Communication and head of the Amiga Video-Graphics Guild. Write to him c/o AmigaWorld *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*



MIDI Sequencers



No longer is the Amiga the orphan of the computer music field. It is now well supported by music software companies, and any Amiga user putting together a computer-music system has a selection of first-class software from which to choose. The most important software item is a good MIDI (Musical Instrument Digital Interface) sequencer that will handle the demands you put on your own particular system.

How sophisticated or how basic your needs are will determine what features and functions you require from your sequencer. The chart that follows offers a fairly exhaustive comparison of 12 Amiga MIDI sequencers, covering a broad range of prices and capabilities—from the professional-level Master Tracks Pro at $395 to the entry-level MRS at $39.

Before we go on, however, let's define exactly what we mean by a sequencer: It is basically a program with which you can record MIDI data (notes, controllers, and so forth)—either in real or step time—and then manipulate that data in order to realize a musical performance that utilizes MIDI-controllable sound sources. The real-time qualification knocks a few old standbys (Sonix and Deluxe Music, for instance) out of the running, because they cannot record in real time and thus cannot be considered sequencers by contemporary standards.

Because sequencers deal with music, a medium that is by nature difficult to categorize, the sequencers themselves are often difficult to compare. This is evident in the drastically different approaches to the art of music making taken by the programmers of these 12 sequencers. Despite this, however, we have managed to come up with quite a number of features—basic and not so basic—that can be compared across the board. (See the sidebar "About the Chart" for information about some of these comparative features that may need to have further clarification.)

Sequencer Hit Parade

Although the chart is there to help you make up your own mind about which sequencer is best for you, let me sum up my own findings and make some recommendations. Of the 12 sequencers, I consider **Bars and Pipes** (Blue Ribbon Bakery), **KCS 3.0** and **KCS 3.0 Level II** (Dr. T's Music Software), **Master Tracks Pro** (PassPort Design), and **Music-X** (MicroIllusions) to be professional-level products.

My co-favorites are KCS and Master Tracks, although the two are very different. Master Tracks is graphically based, very easy to use, and powerful. KCS, especially Level II, is more powerful but not as easy to use. A strong plus in KCS's favor is its MPE (Multi-Program Environment). Any number of MPE-compatible programs can run concurrently, such as the AutoMix animated-fader program, the Copyist notation program, and a wide array of patch editor/librarians. This is an important factor to consider if you want to put together a large-scale system.

I also like Bars and Pipes, and it is my first choice for "fun" projects. It does most of what the others do, but in a dramatically different way. Its pipeline mechanism is enjoyable to work with, and it allows for such advanced features as nondestructive real-time editing. It would be my last choice, however, if I were under a deadline, because its open-ended design results in a kind of fragmentation that I find distracting. Although I don't like its sequencer at all, Music-X has powerful mapping and zoning features that help in a live Amiga performance.

In the entry-level category, **Tiger Cub** (Dr. T's) and **Trax** (PassPort) are both excellent programs—graphically

Text continued on p. 46

By Steve Quinzi

About the Chart

SOME OF THE categories in the chart may need clarification. **Type**, for example, refers to the basic approach that each sequencer takes to recording MIDI data. Some use the drum-machine, or "Pattern" approach, in which segments of music are recorded separately and then chained together to create a song. Others use the tape-recorder, or "Linear" approach, where MIDI data is recorded beginning to end in the same way that audio signals are recorded by a conventional tape recorder. Texture is at one end of the spectrum as a completely pattern-oriented sequencer, while Master Tracks Pro is at the other as a linear sequencer. KCS, on the other hand, implements both approaches thoroughly.

The **Number of Tracks** offered by a sequencer can be misleading; a large number of available tracks is not necessarily any more useful than a moderate number, because there are limits to how much simultaneous information the MIDI data stream can support. **Resolution**, the number of pulses that subdivide the quarter note, is also a black hole of sorts. Some people feel that any resolution higher that 240 pulses per quarter note (ppq) is negated by the limited speed of MIDI. I do agree that the difference made by a higher resolution is a subtle one, but if I can get a higher resolution, I prefer it.

As for sequencer file types, the most versatile programs allow you to save and load entire songs or parts of songs, such as tracks or sequences. Rather than list every file type supported by every sequencer (which would take up too much space in the chart), I confined this category to whether the sequencer **supports SMF** (the Standard MIDI File format). The most unifying idea to come along in a while, SMF allows you to load files done on one sequencer into any other sequencer that supports the format. A sequencer that supports SMF will keep you musically compatible with the rest of the world. ►

MIDI SEQUENCER

SEQUENCER	Bars & Pipes	KCS 3.0	KCS 3.0 II
MANUFACTURER	Blue Ribbon Bakery	Dr. T's	Dr. T's
PRICE	$299.00	$275.00	$375.00
Type	Linear, Pattern	Linear, Pattern	Linear, Pattern
No. of Tracks	Unlimited	48	48
Resolution (ppq)	192	Adj. to 384	Adj. to 384
Supports SMF?	Yes	Yes	Yes
IFF Samples?	Yes	Yes	Yes
SysEx Messages?	No	Yes	Yes
SYNC			
Ext. MIDI (SP)?	Yes	Yes	Yes
MTC?	Yes	No	No
SMPTE?	No	Yes[6]	Yes
Multitask MIDI?	Yes	Yes	Yes
Keyboard Shortcuts	Moderate	Extensive	Extensive
MIDI Remote Control?	Yes	Yes[9]	Yes[9]
Qwerty Keyboard?	No	No	No
Multiple Meters?	Yes	Yes	Yes
Multi-Channel Record?	Yes	Yes	Yes
Rechannel?	Yes	Yes	Yes
Auto Locate	2 cue points	6 cue loops Go to Meas. #	6 cue loops Go to Meas. #
Auto Punch?	Yes	Yes	Yes
TRACK			
Solo/Mute?	Yes	Yes	Yes
Group?	Yes	No	No
Tempo Range (BPM)	10–250	10–999	10–999
Graphic Editing?	Yes	No	No
Event List Editing?	No	Yes	Yes
Standard Notation?	No[15]	No	No
Cut & Paste?	Yes	Yes	Yes
Extract Data?	Yes	Yes	Yes
Random Variations?	Yes[17]	No	Yes[18]
Edit Macros?	Yes	No	Yes
Copy Protected?	No	Yes	Yes

NOTES:

[1] Uses control track to trigger sequences.

[2] Sequences are single-track rather than the more typical multitrack.

[3] When sync'd to other devices, the maximum resolution is 96 ppq if SoundScape is the clock source, and 48 ppq if it's the slave.

[4] MIDI file conversion is done by a PD utility. Problems arise when it tries to read a file originally done at a resolution other than 192 ppq.

[5] With optional patch librarian.

[6] Dr. T's hardware SMPTE synchronizer.

FEATURES AND FUNCTIONS

Master Tracks Pro	MIDI Magic	MRS	Music-X	SoundScape	Texture I	Texture II	Tiger Cub	Trax
PassPort	Circum Design	Dr. T's	MicroIllusions	Mimetics	Sound Quest	Sound Quest	Dr. T's	PassPort
$395.00	$149.95	$39.00	$299.95	$179.95	$145.00	$230.00	$99.00	$99.95
Linear	Pattern	Linear	Linear, Pattern[1]	Linear, Pattern[2]	Pattern	Pattern	Linear	Linear
64	16	8	250	Unlimited	24	24	12	64
240	Adj. to 480	Adj. to 384	192	96[3]	Adj. to 192	Adj. to 192	Adj. to 384	240
Yes	No	No	Yes[4]	No	No	Yes	Yes	Yes
No	No	Yes	Yes	Yes	No	No	Yes	No
Yes	Yes[5]	Yes	Yes	Yes[5]	No	No	No	No
Yes	Yes (no SP)	Yes	Yes	Yes	Yes	Yes	No	Yes
Yes	No	No	Yes	No	No	No	No	No
Yes[7]	No	No	Yes[8]	No	No	Yes	No	No
No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Moderate	Moderate	Moderate	Extensive	None	Extensive	Extensive	Moderate	Moderate
Yes	Yes[9]	Yes	Yes	No	No	No	No	No
No	No	Yes	No	Yes	No	No	No	No
Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes	Yes	No	No	Yes	No
Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Go to Mark. # Go to Meas. #	None	1 cue loop	4 cue points	2 cue points	Go to Pat. # Go to Beat #	Go to Pat. # Go to Beat #	1 cue loop	Go to Meas. # Go to Mark. #
Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Yes	Yes	Yes[10]	Mute only	Yes	Yes	Yes	Yes	Yes
No	No	No	No	No	Yes	Yes	Yes	No
12–240	28–240	10–999	10–300	1–240	16–240	16–240	20–600	10–240
Yes	No	No	Yes	No	No	No	Yes	Yes[11]
No	Yes[12]	Yes[13]	Yes	Yes[14]	Yes	Yes	Yes	No
No	No	No	No	No	No	No	Yes[16]	No
Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes
Yes	No	No	Yes	No	Yes	Yes	No	Yes
Yes[19]	Yes[20]	Yes[20]	Yes[21]	No	No	No	No	No
No	No	No	No	No	No	No	No	No
No	No	Yes	No	Yes	No	No	Yes	No

[7] PassPort's hardware SMPTE synchronizer.

[8] MicroIllusion's hardware SMPTE synchronizer.

[9] Record start only.

[10] Solo through MIDI only.

[11] No controller editing.

[12] Limited controller editing; no velocity editing.

[13] Limited controller editing.

[14] Limited editing of any kind.

[15] But it *can* display piano-roll, style-bar shapes on a grand staff.

[16] QuickScore, which comes with Tiger Cub, transcribes Cub sequences in a display-only format.

[17] Rhythmic variations are available from the main program. Some of the tools can also effect some melodic and harmonic variations.

[18] The PVG can vary MIDI data in almost every way imaginable.

[19] Rhythmic.

[20] Swing factor.

[21] Velocity and after-touch.

About the Chart, continued

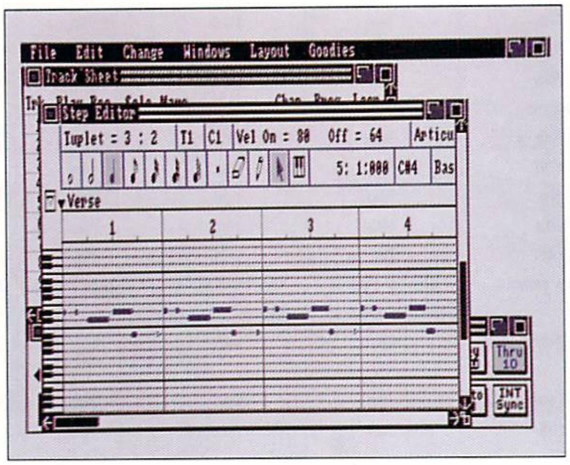
SysEx refers to the ability to record system-exclusive messages. Usually associated with patch librarians, such capability can prove a very handy feature to have in a sequencer, especially if you are using it for live performance. The ability to synchronize to an external MIDI timing source with song pointer [**Ext. MIDI (SP)**] is essential if you want to do any kind of tape lockup.

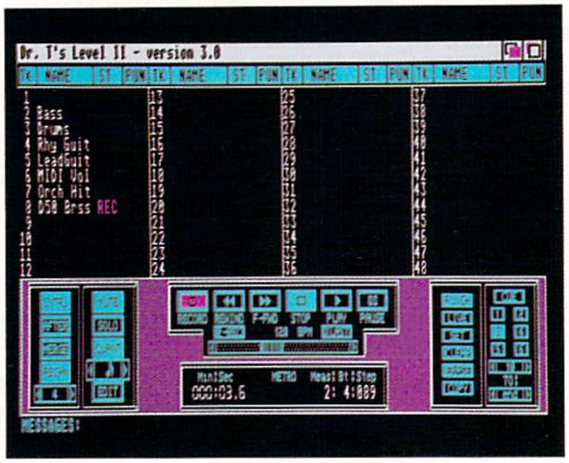
For the most time-critical applications, **MTC** (MIDI Time Code) and/or **SMPTE** (Society of Motion Picture and Television Engineers) Time Code support are necessary. In fact, I do not really consider any sequencer a professional product if it does not support either MTC or SMPTE.

With the exception of the PassPort products, most sequencers allow you to **Multitask** MIDI applications. In most instances, this involves freeing the serial port so that another program, such as a patch editor/librarian, can use it. Only KCS, however, through Dr. T's MPE mechanism, can multitask interactively so that different MPE applications can actually run at the same time.

The only other feature in the chart that might need explanation is the **Random Variations** category. Here I have included everything from a simple "swing" or "humanize" factor available on some programs, to the heady stuff offered by KCS Level II. □

—SQ





Using the Step editor (top) in Master Tracks Pro, you can individually edit up to 64 separate tracks. In Track mode (bottom), KCS 3.0 Level II uses a similar, tape-recorder-style method to record up to 48 tracks, although KCS's Open mode allows you to combine track segments in up to 128 different combinations.

From p. 43

based and comparably priced. Because their respective limitations are so different, it is difficult to recommend one over the other. If you do not need external sync, Tiger Cub might be the best choice. Its graphic editing is more comprehensive, it supports Amiga samples, it loads SMUS (Simple Music Score) files (if you are upgrading from one of the old Amiga standbys), and it includes Dr. T's QuickScore, which offers simple yet useful transcription. On the other hand, Trax does offer external sync—making it more suitable for recording purposes—as well as having more tracks (although it does not offer controller editing).

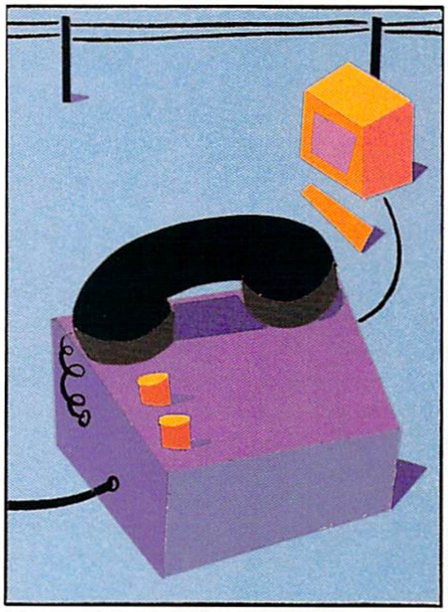
Texture I and **Texture II** (Sound Quest) head up the rest. These are basically the same program, although Texture II is spruced up with some interesting use of color and a graphics-based data-display-only window. I recommend Texture to anyone who really likes pattern sequencing and an IBM-style environment. It is efficient, but cryptic. **MRS** (Dr. T's) is a solid program that might be good for someone who needs only eight tracks and doesn't mind the ugly look of the older Dr. T programs. **MIDI Magic** (Circum Design) is the weakest of the bunch—sparse on features and possessing a few quirks that lead me to believe the program still needs some work. One other program that is available, **SoundScape** (Mimetics), is not one I would recommend.

These are, of course, my own personal recommendations. In browsing through the comparison chart or experimenting by yourself, you may find your own favorites based on your own special needs. Making music is a creative, highly individualistic pursuit—so choose what suits you best. Good luck! ■



Steve Quinzi composes music with his Amiga and writes about the process. Write him c/o AmigaWorld *Editorial, 80 Elm St., Peterborough, NH 03458.*

Telecommunications



Although no radically new Amiga terminal programs have appeared in the last year or so, quite a few existing programs have been revised and updated, streamlined, bullet-proofed, and given more features than they ever had before.

As Senior Chairman (Sysop) of People/Link's Amiga Zone Clubs, I look at terminal programs as the tools of my trade, and I am always on the prowl for any program that will help me do my job better. Modem jockeys do get religious about their favorite terminal software, though, and a program that lacks one or two features I require might be enough for me to reject a title. For the purpose of this comparative guide to Amiga telecommunications software, however, I'll try to be a bit more objective. Your needs will almost certainly be different from mine or the next guy's. If you are a beginner at Amiga telecomm, you have your work cut out for you in sorting through the good, the bad, and the ugly.

The descriptions of individual programs—and the the more detailed comparison chart that follows—are designed to help you evaluate 10 leading Amiga terminal programs to see which one best suits your needs. There are a great many more communications packages available than these, but it would be impossible to present all of them in the space allowed.

An interesting point about Amiga terminal programs is that, unlike word processors, paint programs or most other software categories—where commercially sold titles dominate—terminal software is split fairly evenly between commercial and freely distributable (public domain/freeware/shareware) or "user-written" programs. You need not spend *any* money at all (or perhaps just a token shareware payment) to get perfectly usable, capable terminal software.

While this article should help novices looking for an Amiga terminal program, I think that a lot of the detailed information in the chart will also be of real interest to more experienced telecomm users who may be searching for a better alternative to their present setups. In addition, please note that program version numbers, where mentioned, indicate the latest version available at the time of writing.

Commercial Programs

The latest incarnation of Oxxi's powerful A-Talk series (which is upgraded every few months) is **A-Talk III (v1.3c)**. A-Talk's forte is terminal emulation, and professionals who need to communicate with VTnnn or Tektronics machines would do well to investigate this title seriously. Although its appearance is rather generic, a lot of power lurks behind the plain-looking interface. The "Talk" in A-Talk III's name refers to its ability to speak, through the narrator.device, any text going to or coming from the modem—most helpful for sight-impaired users. Although not flashy or glamorous, A-Talk III is a highly useful package without serious problems. The ARexx port and script language are important pluses.

The winner in the "most-bang-for-the-buck" category is **Baud Bandit (v1.50)** from Progressive Peripherals. This inexpensive little wonder is the successor to the public-domain program GT. Instead of pull-down menus, Bandit employs a plethora of slide-up screens and pop-open windows for user input and program control through either mouse or keyboard. A phone book of unlimited length, an incredibly versatile ARexx port, and the ability to use almost any font are important and valuable features.

The built-in script pairs are easy to program, and they speed log-ons. The program multitasks within itself, allowing you, for example, to peruse its review buffer while performing file transfers. Full of power-user touches, it is still easy to use. Bandit lacks any specific terminal emulations apart from ANSI, but it has the full range of file-transfer protocols, runs in different screen modes, and performs well with high-speed modems.

A peculiar program, **Dr. Term Professional (v2.0)**, from ►

By Harv Laser

Progressive Peripherals, was originally called "TeleCraft" and was written for Commodore back in 1985, before the Amiga 1000 was released. We're talking ancient history here, and it shows. Dr. Term's user interface is cumbersome. Modern file requesters alone would make it much more friendly. In its favor, Dr. Term sports a built-in mini BBS and a powerful "command language" not unlike that of CrossTalk XVI, a program familiar to CP/M and MS-DOS users. The glory days of this kind of interface, however, are past. Programs with ARexx ports—which Dr. Term lacks—are the future. Buy this one only if you are bored or prepared to suffer though its idiosyncrasies.

One of the earliest commercial terminal programs for the Amiga, Micro-Systems Software's Online!—now available as **Online! Platinum Edition (v3.03)**—is big and capable, and has much to offer. Strange quirks of earlier versions have been corrected, although some remain, such as the slightly eccentric file requesters with which owners of other MSS products will be familiar. One of Online! Platinum's slickest features is its powerful script mode with a "learn" feature for total automation of repetitive sessions. Spend some time mastering the scripts, and you can have Online! Platinum dial your favorite BBS, log you on, collect new messages, and log you off with just a couple of mouse clicks.

Online! Platinum owners can use the unique "Sadie" protocol, which allows bidirectional file transfers with simultaneous chatting. This feature, however, is for head-to-head use only, as no BBS software yet supports Sadie, not even MSS's own BBS-PC. The latest version of the program now sports an ARexx port for interprocess communications. Online! Platinum's menu-driven interface is no radically new development; rather, it is reassuringly conventional and user-friendly. The version of Online! included with The Works! Platinum, v1.1 is identical except for the lack of ARexx capabilities. (The Works! is a word processor, spreadsheet, database, and terminal collection, driven from a centralized interface, and it is available from MSS for $199.95.)

Programs whose packaging shouts "the ultimate," "the best," or, in the case of MichTron's **VTX On-Line (v1.0)** "the Complete Telecomm Package" are asking to be challenged. The fact that VTX On-Line does not include Windowed Xmodem (People/Link's fastest protocol) and that it frequently crashed unless I ran it on my A2500 in 68000 mode were but two of many reasons why I was less than charmed with it. In addition, a drawer filled with enticing "demo" files led nowhere; the manual did not explain how to load or view them.

One of the program's claims to fame is its ability to let you view CompuServe RLE graphics files on line while downloading them. This is of marginal use, as RLE files are very low-resolution, and no one creates them on Amigas, anyway. VTX On-Line's most useful feature for beginners is the built-in, context-sensitive Help facility (which even points one to the right pages in the manual). The two-paragraph ARexx section of the manual, however, has *no* examples at all (nor are there any on the disk); it merely refers you to the scripting chapter—another dead end. MichTron reports that VTX On-Line has not been upgraded since its release well over a year ago. Either the company thinks the program is perfect, or the programmers found something better to do.

Freely Distributable Programs

All of these titles are available from many different sources. You can download them from Amiga on-line information services such as People/Link, GEnie, BIX, and CompuServe (see the "Manufacturers' Addresses" box on p. 52 for phone numbers), or find them on published disk collections, the Fred Fish series, user-group disks, and the like. *(Included for most of the programs below are the People/Link AmigaZone library and file numbers, the GEnie Amiga file numbers, and/or the CompuServe Amiga User (Library 5) filenames.—Eds.)*

Access (v1.42), by Keith Young, is a greatly enhanced shareware rewrite of Comm 1.34 (see below). I am tempted to call it "a dolled-up Comm" because Access is truly one of the prettiest-looking terminal programs in use—with very colorful gadgets and requesters, and even drop-shadowed text. Last revised in 1988, however, the program shows its age. While I have heard conflicting reports about the author's plans, I was not able to confirm anything by press time. If a new version does surface, it should be a winner. *(P/Link, Lib. 8, #13990; GEnie, #5115; CompuServe, ACC142.ARC)*

While it has also become a senior citizen among software, **Comm (v1.34)**, by Dan James, is still the perfect public-domain terminal for beginners. It is also one of the very few accompanied by its C-language source code, which allows programmers to customize and modify it to suit their own needs—and many have done exactly that. Avoiding glitz and bare in appearance, Comm is a very stable program with lots of nice touches, such as a pull-down 44-number phone book, macros, and a chat window. There is no ARexx or scripting here, but you can't beat the price, and it is a good place to start in the telecommunications game. *(P/Link, Lib. 8, #6003; GEnie, #1924; CompuServe, INTOUC.ARC)*

There are several variations of Comm worth mentioning. **NComm** *(P/Link, Lib.8, #22882; GEnie, #8219; CompuServe, NCOMM1.LZH)*, a European version, lacks WXmodem support, but adds other protocols and a scripting language. S.S. Patel's **AZComm**

Text continued on p. 52

OVERDRIVE



In the year 2510, all civilization in the known universe has joined into a single confederation. Absolute peace reigns between people of all worlds.

You have just joined the Civil Defense Unit, one of many small groups which offer peace enforcement services. Intergalacti pirates have become the greatest force against order. Day by day more ships are lost.

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TELECOMMUNICATIONS SOFTWA

PROGRAM	Baud Bandit	A-Talk III	Online! Platinum	VTX On-Line
MANUFACTURER	Progressive Peripherals	Oxxi	Micro-Systems Software	MichTron
PRICE	$49.95	$99.95	$69.95	$79.95
Protocols[1]	X, WX, Y, YB, Z, B+	X, XPR, WX, Y, YB, Z, K	X, WX, Y, YB, Z, K, B, QB, S	X, Y, K, B
Scripting?	Yes	Yes	Yes	Yes
Script "Learn" Mode?	No	Yes	Yes	Yes
ARexx Port?	Yes	Yes	Yes	Yes
FONTS				
Load Other Fonts?	Yes	Yes	Yes	Yes
Internal Fonts?	No	Yes	Yes	No
External Fonts?	Yes	Yes	No	Included
Phone Book Max. Entries	Unlimited	60	40	64
Queue Dialing?[2]	Yes	Yes	Yes	No
Chat/Conferencing Mode?	Yes	Yes	Yes	Yes
Variable Chat Window?	Yes	Yes	Yes	No
OTHER SERIAL SUPPORT				
Built-in Support?	Yes	Yes	Yes[3]	No
"Zap" Code for Support?[4]	No	No	No	Yes
Baud-Rate Range (bps)	300–38,400	300–57,000	300–57,000	300–19,200
No. of Macro Keys Allowed[5]	30	20	20	20
Clipboard Support?	Yes	Yes	Yes	Yes
Backscroll/Review Buffer?	Yes	No	Yes	Yes
Intelligent File Requesters[6]	Yes	Yes	Semi	Semi
On-Screen Clock/Timer?	Yes	Yes	Yes	Yes
SCREEN OPTIONS				
Runs on Custom Screen?	Yes	Yes	Yes	Yes
Interlace Mode?	Yes	Yes	Yes	Yes
Borderless Mode?	Yes	Yes	Yes	Yes
Workbench Mode?	No	Yes	Yes	No
Speech Options?	No	Yes	No	No
Internal Multitasking[8]	Yes	No	No	No
ASCII Text Send-Speed Control?	Yes	Yes	Yes	Yes
Creates Icons for Downloads?	No	Yes	Yes	Yes
CPS Speed Counter?	No	No	Yes	No
Built-in "Mini" BBS?	via ARexx	via ARexx	No	No
TERMINAL EMULATIONS				
DEC VTnnn Types?	No	VT 52/100/102	VT 52/100/102	VT 100/220
Zenith?	No	H19	No	No
Tektronics?	No	4010/4014	No	4014
IBM ANSI?	Yes (w/Font)	Yes	Yes	Yes
Amiga ANSI?	Yes	Yes	Yes	Yes
Skypix?	No	No	No	No
Runs in Workbench 2.0?[9]	Yes	Yes	Conditionally	No

RE FEATURES AND FUNCTIONS

Dr. Term Pro	Comm	AZComm	Access	JR-Comm	Handshake
Progressive Peripherals	Dan James	S.S. Patel	Keith Young	Jack Radigan	Eric Haberfellner
$69.95	Free (PD)	Free (PD)	$25 (Shareware)	$30 (Shareware)	$25 (Shareware)
X, WX, Y, K, B	X, WX	X, Z	X, B+, Z	X, WX, Y, Z, B+	X, Y, YB, K, XPR
Yes	No	No	Yes	No	via ARexx
No	No	No	No	No	No
No	No	No	No	No	Yes
No	No	No	Yes	Yes	Yes
No	No	No	No	No	No
No	No	No	Yes	Included	Yes (8 × 8 only)
Unlimited	44	44	60	9999	20
Yes	No	No	No	Yes	No
Yes	Yes	Yes	Yes	Yes	No
Yes	No	No	No	No	No
No	No	No	No	Yes	Yes
Yes	Yes	Yes	Yes	No	No
110–38,400	300–9,600	300–19,200	300–19,200	300–57,000	300–19,200
40	20	20	20	40	6
No	No	No	No	No	No
Yes	No	No	Yes	Yes	No
No	Yes	Yes	Yes	Yes	Yes
Yes	No	No	Yes	Yes	No
No	Yes	Yes	Yes	Yes	Yes
Yes[7]	Yes	Yes	Yes	Yes	Yes
No	Yes	Yes	Yes	Yes	Yes
Yes	No	No	No	Yes	No
No	No	No	No	No	No
No	Yes	Yes	No	No	No
No	Yes	Yes	Yes	Yes	No
No	No	No	No	No	No
No	No	Yes	No	Yes	No
Yes	No	No	No	No	No
VT 52/100	No	No	No	VT 100/102	VT 52/100/102/220
No	No	No	No	No	No
No	No	No	No	No	No
Yes	No	No	Yes	Yes	No
Yes	Yes	Yes	Yes	Yes	No
No	No	No	No	Yes	No
Yes	Yes	Yes	Not Completely	Yes	Yes

NOTES

[1] Protocol Abbreviations:

- X = Xmodem/Xmodem-CRC
- WX = Windowed Xmodem
- Y = Ymodem
- YB = Ymodem batch
- Z = Zmodem
- K = Kermit
- B = CompuServe B
- B+ = CompuServe B+
- QB = CompuServe Quick-B
- XPR = External Protocol Libraries
- S = Sadie

[2] Queue dialing allows you to click multiple phone-book entries and then have the terminal move on to the second number if the first number is busy, and so on until a connection is made.

[3] Via Icon ToolType.

[4] Using a Hex file editor such as NewZap, one could go into the actual code of the program and change Hex/ASCII data to tell the program to look for a serial device or port other than the standard Amiga serial port.

[5] Some terminals allow you to load a separate group of macros for each number in the phone book. The figures shown here indicate how many macro keys can be active at the same time through the use of various combinations of the function keys.

[6] "Intelligent" describes a file requester that can be made fully mouse-driven so that it does not require the user to click on a text box and then enter the name of a disk, drive, directory, device, or the like.

[7] Inherits interlace mode from Workbench.

[8] Internal multitasking refers to whether you are able to do anything else (such as look at the review buffer, open a requester, or choose a menu item) inside the terminal program while uploading or downloading a file.

[9] Some of these programs have already been upgraded for version 2.0 of the Amiga's operating system. I tested them in September 1990 using the Developer's Kickstart 2.01 then in use in the Amiga developers' community. Kickstart 2.02 (or whatever Commodore calls the actual "ROM-ed" version in the final release of 2.0) may possibly yield different results. There were some mixed results with a few of the programs, such as Access, which functioned reasonably well under 2.01 except for the fact that the graphics were messed up, and Online! Platinum, which opened up a huge window as if it were running on an A2024 monitor. The user, however, can perform a "zap-patch" with information obtained from Micro Systems Software to solve the latter problem.



From p. 48

(P/Link, Lib. 8, #13842; GEnie, #5149; CompuServe, AZCOMM.ARC), which I have included in the chart, has a Zmodem protocol that is one of the faster—if not *the* fastest—on the Amiga, and it gets raves from high-speed modem owners. **CommPIX** *(P/Link; Lib. 8, #75849)*, by Steve Tibbett (of VirusX fame), incorporates proprietary "backslash" commands used in People/Link's conference area to send highlighted and colored text to other CommPIX users. **CardComm** *(P/Link, Lib. 8, #18263)*, by John Hoffman, lets PLink members play card games (with graphics) in conference.

For inexpensive VT100 emulation, look no further than **Handshake (v2.20B)**, by Eric Haberfellner. Designed as the perfect VTnnn emulator for the Amiga, the latest version adds an ARexx port, external protocol capabilities (via XPR libraries), and third-party serial-port communication without having to "zap" into its code. *(P/Link, Lib. 8, #15215; CompuServe, HS212A.ARC)*

Judging from the response of the user community, it appears that **JR-COMM (v1.01)**, by Jack Radigan, has picked up where



Manufacturers'

American People/Link
165 N. Canal St., #950
Chicago, IL 60605
800/524-0100

ARock Computer Software
1306 E. Sunshine
Springfield, MO 65804
800/288-2765
417/887-7373

BIX
1 Phoenix Mill Lane
Peterborough, NH 03458
800/227-2983
603/924-9281

Blue Ribbon Bakery
1248 Clairmont Rd., Suite 3D
Atlanta, GA 30030
404/377-1514

Circum Design
PO Box 854
Ben Lomond, CA 95005
408/336-5716

Classic Concepts
PO Box 786
Bellingham, WA 98227
206/733-8342

CompuServe
5000 Arlington Center Blvd.
Columbus, OH 43260
800/848-8199
614/457-8650

Dr. T's Music Software
100 Crescent Rd., Suite 1B
Needham, MA 02192
617/455-1454

GEnie
401 North Washington
Rockville, MD 20850
800/638-9636

Gold Disk
5155 Spectrum Way, Unit 5
Mississauga, Ont.
Canada L4W 5A1
800/387-8192
416/602-4001

Access left off and is now the king of the shareware titles. The extensive manual alone (supplied on disk) could probably be published as a book and sold for more than the price of the program. JR's wide array of protocols and terminal emulations (with Skypix recently added by popular demand) can't be beaten. It does lack an ARexx port and scripting capabilities, but both of these are promised in the next version. *(Version 1.0 only: P/Link, Lib. 8, #23855; GEnie, #8722; CompuServe, JRCOM9.ZOO)*

Another major factor in JR's success is Radigan's support BBS and his constant presence on all four major Amiga-supporting commercial networks. The man is everywhere, providing extremely aggressive maintenance for his labor of love. JR's high-speed modem support is also excellent. While I don't care for the single-line chat mode, and I feel that the initial set-up phase could have been made easier for beginners, I think JR-COMM is still a splendid do-it-all program at a low-ball price. ■

Harv Laser is Chairman of People/Link's Amiga Zone Clubs and writes extensively about the Amiga. Write to him c/o AmigaWorld *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

Addresses

Kara Computer Graphics
2554 Lincoln Blvd. Suite 1010
Marina Del Rey, CA 90291
213/578-9177

MichTron/Microdeal
3285 Lapeer Rd. W.
Auburn Hills, MI 48326
313/377-8898

MicroIllusions
PO Box 3475
Granada Hills, CA 91394
818/785-7345

Micro-Systems Software
12798 Forest Hill Blvd.
Suite 202
W. Palm Beach, FL 33414
407/790-0770

Mimetics
PO Box 1560
Cupertino, CA 95015
408/741-0117

Oxxi Inc.
PO Box 90309
Long Beach, CA 90809
213/427-1227

PassPort Designs
625 Miramontes St.
Half Moon Bay, CA 94019
415/726-0280

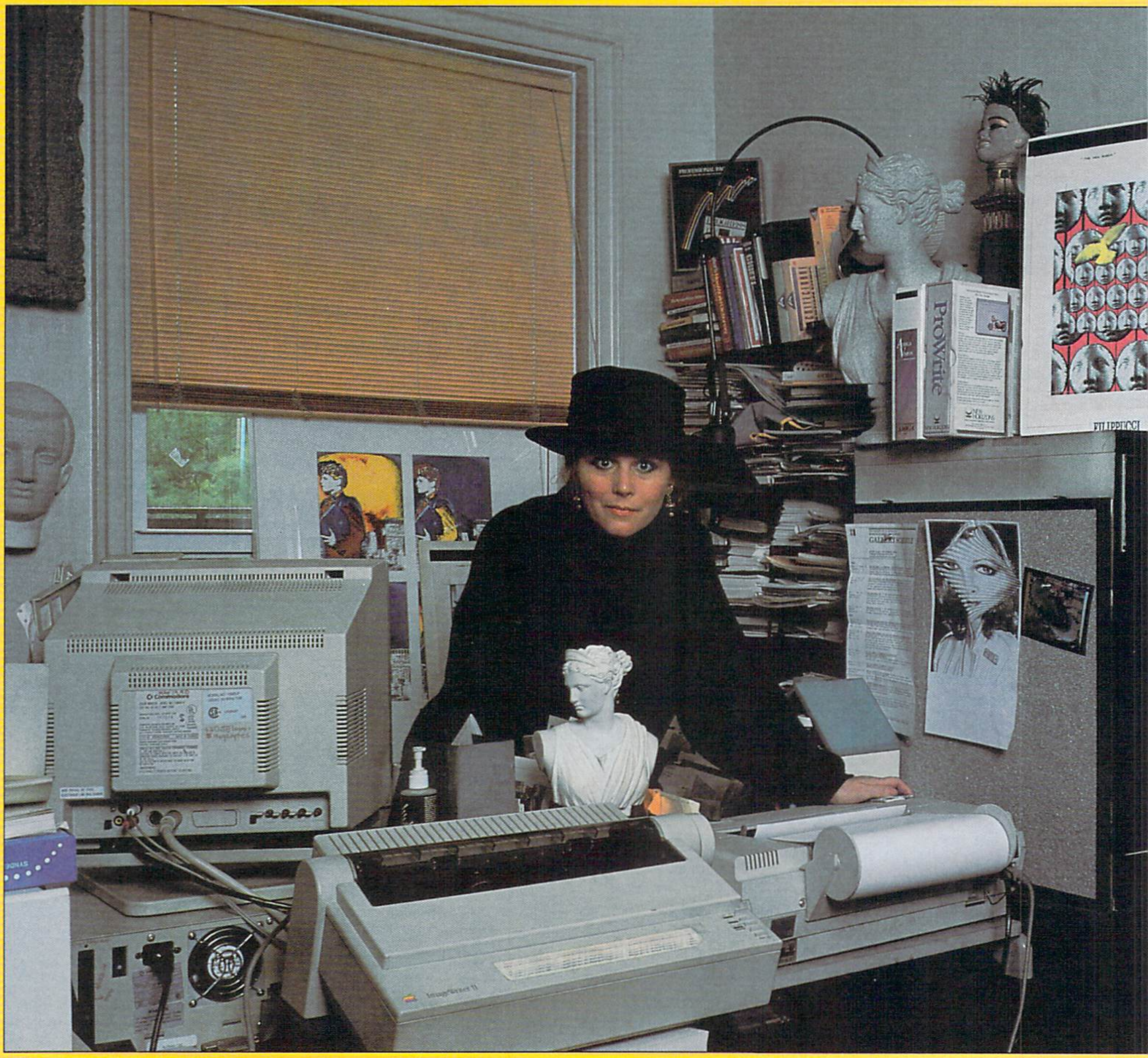
Progressive Peripherals & Software
464 Kalamath St.
Denver, CO 80204
303/825-4144

Sound Quest
1573 Eglinton Ave. W., Suite 208
Toronto, Ont.
Canada M6E 2G9
800/387-8720
416/256-0466

Zuma Group Inc.
6733 North Black Canyon
Phoenix, AZ 85015
602/246-4238

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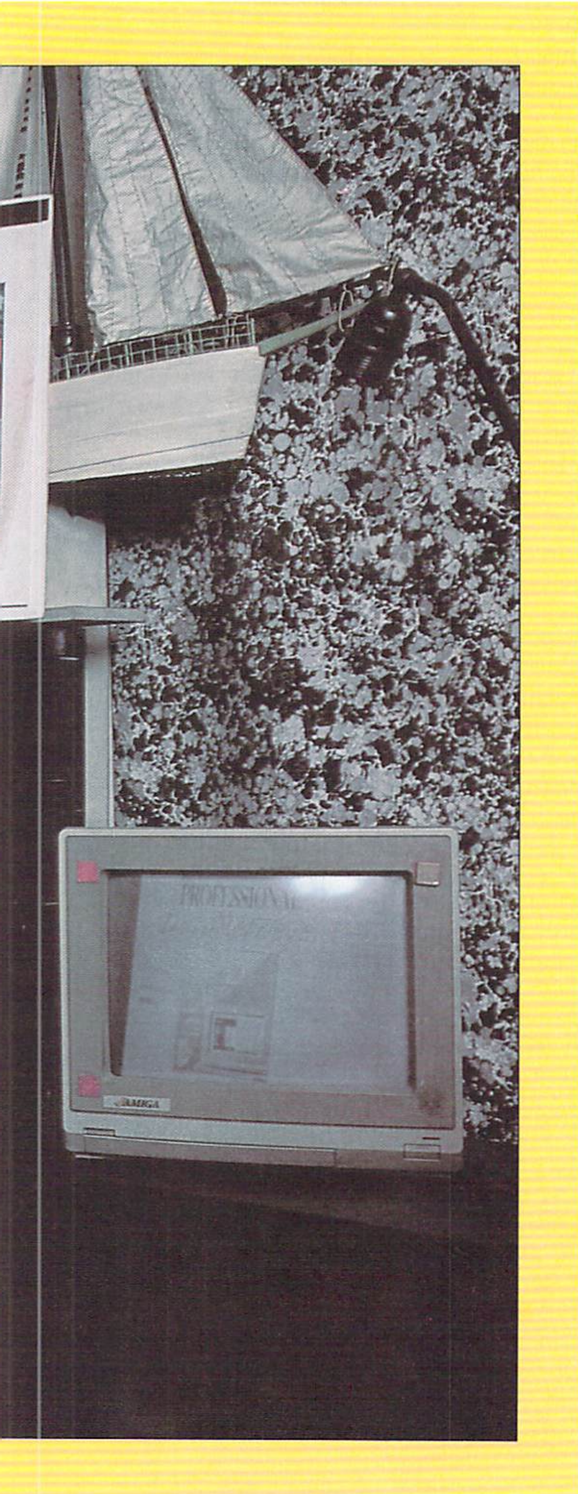
A Portrait of the Artist



Acclaimed Amiga artist Sandra Filippucci in her studio office.

PHOTOGRAPHED BY IVAN SAPERSTEIN

as a Small Business



Choosing the right software, and using it to its potential, can make your partner in creativity—your Amiga—the business manager who keeps your enterprise in the black.

By Jamie Krutz

You're happily doing what you do best with your Amiga: writing, making music, producing videos, drawing, painting, or animating. Suddenly, a hurricane of invoices, statements, proposals, IRS schedules, and client addresses and phone numbers descends, swirling around you and sapping your creative energy. An ominous voice booms from the heavens, "You're a business!" "Help," you cry weakly to your Amiga.

What makes the Amiga such a good environment for business use? The same thing that makes it so great for everything else: multitasking! While the screen redraws the last frame of your client's animation, you can calculate the total bill for the project and check your schedule to see if you have time to get the package in the mail before your afternoon appointment.

Chances are that as a creative Amiga user, you already have the hardware necessary to take full advantage of multitasking—especially if you work with sound and graphics. Hardware essentials include three or more megabytes of memory and a hard disk with at least 40 megabytes of space.

On the software side, there are many options. I choose software based on power, ease of use, and support of exciting Amiga features like ARexx and the clipboard that allow programs to work together (see the sidebar "Power to the Business" for more information on these "power features." I have based my recommendations on a goal of setting up the most flexible and convenient business software system possible.

If you are just starting out, you can get away with lower priced, less capable software, and you can use fewer types of software to accomplish your goals. You are likely to find this type of setup limiting, however, so as your business grows, you'll ►

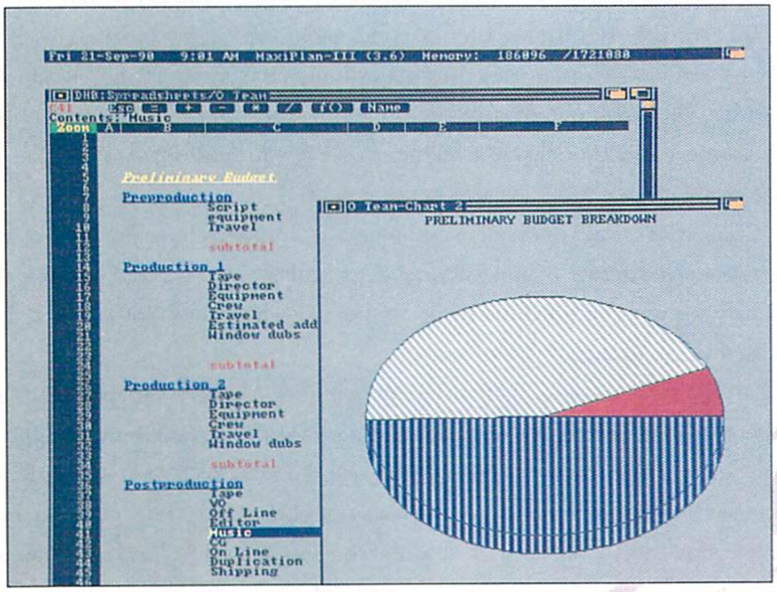
want to move up to the best software tools that are available.

TRACKING YOUR CASH

Do you keep a shoe box full of receipts, checks, and deposit slips and then drop the whole bundle off to the accountant every year and hope for the best? Or perhaps you keep a notebook of earnings and expenditures, and try to wade through the whole mess yourself at tax time? By putting your financial information into your Amiga, you can not only get a good estimate of what the accounting results will be, but also produce formatted reports, which can save you or your accountant time—and therefore save you money. Beyond that, it can help you make informed decisions about when to invest in more equipment and when to borrow money. It can also tell you who your best clients are, what kind of work makes you the most money, and what months are your most profitable.

To keep track of your business, you can use a spreadsheet, a database, or a dedicated accounting package. For simple cash tracking, spreadsheets are the most flexible and the easiest to set up. While a database makes data entry easier, it is cumbersome for doing math beyond simple addition. A program like **Service Industry Accounting** ($99, Brown-Wagh Publishing) requires a clear understanding of double-entry accounting. Although it provides a basic structure capable of generating IRS-ready reports, you still must invest time setting it up to fit your business. Check with your accountant to see if your business can benefit from the structure of a dedicated accounting package.

A spreadsheet can total your income and expenditures automatically. You can build in formulas to calculate percentages for the IRS or total your net income and taxes at any time. One expense category I use is depreciable business equipment, which includes my Amiga.



Budgeting and graphing, MaxiPlan style.

Some spreadsheet programs let you sort entries to extract valuable information. You can sort by client, for instance, to get the necessary numbers for IRS Schedule C.

MaxiPlan 3.6 ($249.95, Intuitive Technologies) is a serviceable, noncopy-protected spreadsheet program with an easy-to-use interface and ARexx control of its macros. It can generate IFF bitmapped graphs from your data, although the jagged-edged images look amateurish in print. MaxiPlan does not support the Amiga's clipboard, so you cannot cut and paste information directly between it and another program. You can, however, export information in ASCII format. MaxiPlan has a reputation for being easy to use but prone to bugs. In version 3.6, some trouble-plagued features that appeared in other late-model versions are disabled.

Setting up a range of data to sort in MaxiPlan is as easy as dragging the mouse across the area to highlight it and giving the range a name. Telling MaxiPlan how to sort it is a little more involved. You must specify "sort criteria" somewhere on the spreadsheet itself (a mouse-driven requester would be easier). You can have multiple sort criteria for any named range, and you can sort on more than one column at a time.

Superplan ($149.95, Precision), another capable spreadsheet package, offers pull-down menus and some mouse capabilities. Although it supports ARexx, it does not make use of the Amiga's clipboard. Like Maxiplan, it lets you define macros for command sequences. It can sort only one column at a time, however, and cannot store sort criteria. Superplan has a sluggish feel and uses IBM-style slash-key commands.

With its special printer drivers, Superplan can print higher-than-screen-resolution graphs. Unfortunately, however, it cannot save graphs as IFF-DR2D files for importing into programs that support object-oriented graphics. Superplan is protected with a dongle (a hardware plug that must be attached to the second mouse port in order for the software to run), but a version without a dongle is available for an extra $10.

Both Superplan and MaxiPlan work well for creating bids, and both can create Gantt charts (graphic depictions of the steps required to complete a project) for job scheduling. Superplan's time-sheet and critical-path analysis capabilities are a plus.

Both spreadsheets claim the ability to import and export in Lotus 1-2-3 format, and Superplan has provisions for saving in dBase II and III formats. These features allow you to exchange files with programs on other machines.

Although it's not perfect, I choose MaxiPlan for its ►

superior interface, which makes short work of project budgeting and general accounting.

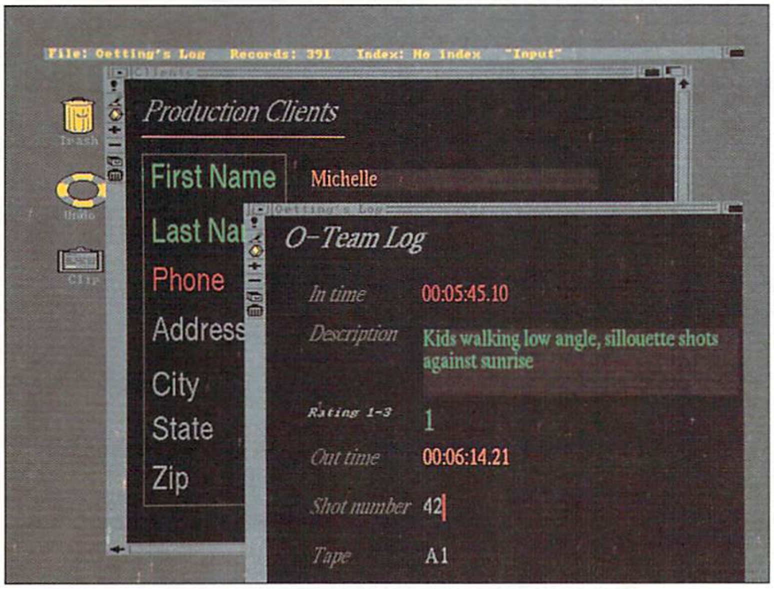
LISTLESS? TRY A DATABASE!

While database managers are not the perfect solution for tracking your finances, you can't beat them for storing, managing, and sorting lists—of everything from shooting logs, graphics, and MIDI-synthesizer patch descriptions to clients' names and addresses. For professional use, my favorites are **Professional DataRetrieve** ($295, Abacus), **Superbase Professional** ($349.95, Precision), and **MicroFiche Filer Plus** ($179, Software Visions).

Professional DataRetrieve and Superbase Professional are both relational, which means that they allow multiple files to share data fields—the files' basic building blocks. For instance, if you set up your inventory and sales files to share a quantity field, the stock quantity will automatically decrease when you post a sale. Also, both support files limited only by the size of your hard disk.

Both programs let you design templates (Pro DataRetrieve calls them masks; Superbase Pro calls them forms) to see and print your data in various configurations. With this facility, you can show only selected fields and arrange them in any order. It lets you create attractive and colorful screen displays and design printed reports, invoices, mailing labels, and so on.

Professional DataRetrieve lets you create and save different masks for the screen and printer, and it lets you view multiple screen masks in separate windows. Masks are simple to set up (although the program does not accurately register mouse movement during mask creation), and you can make multiple masks for each database and edit them at any time.



A professional Data Retrieve screen, with masks, showing a client record and budget log.

Creating templates in Superbase Professional is also easy, but it's not as convenient, because the included forms-design utility is a separate program. Unlike Professional DataRetrieve, Superbase lets you view only one template at a time. You can, however, combine fields from different databases in a single template.

Professional DataRetrieve supports the clipboard, but not ARexx. Superbase Professional supports ARexx, but not the clipboard. Both have their own programming languages for advanced applications.

Despite its VCR-style buttons that let you move easily between records, Superbase Professional is less intuitive than Professional DataRetrieve. Without a template, Superbase's data display is boring and reminiscent of IBM screens. The program does not use windows, its lack of a good file requester is inexcusable, and its documentation is mediocre. On the other hand, Professional DataRetrieve provides keyboard commands for most functions, but sometimes forces you to use the mouse.

Although both Pro DataRetrieve and Superbase Pro can store IFF pictures in files, MicroFiche Filer Plus is the best for looking through graphics databases. It lets you scan through your records as if you were using a microfiche reader, and it displays scaled-down versions of your IFF files, which you simply click on if you want to see the full-size picture. MicroFiche Filer Plus keeps your database in RAM, which limits file size to the amount of RAM you have, but also makes for a quick response.

MicroFiche Filer Plus is not relational. You can accomplish some relational functions by running several copies of the program and connecting them via ARexx, but this involves some work. MicroFiche was one of the first programs to adopt ARexx as its macro language, making it a good choice for integrating with other programs. Like Superbase, it lacks a good file requester and clipboard support.

There is no clear winner in the database field. All three work well to keep track of data. They all store text and IFF graphics and have math capabilities. Superbase Pro is probably the most powerful, while MicroFiche Filer Plus's unique metaphor lets you quickly browse visually through your records. I choose Professional DataRetrieve because it is the most intuitive, but I'll keep my eyes on the other two.

TIME SAVERS

Electronic phone books and calendars can save you time. If you have a modem, an electronic telephone book can dial calls for you automatically. A calendar program is helpful for planning your time and reminding you of appointments and deadlines.

I log in every upcoming event in my calender program. I do not use the alarm feature because I'm not always at my Amiga, but I do check it every day to see what's coming up. It helps me schedule ap- ►

pointments and keep them from conflicting.

Who! What! When! Where! ($79.95, Blue Ribbon Bakery) is an integrated calendar and phone book that can transfer data from the phone list to the calendar. It can handle multiple schedules and it supports ARexx. Unfortunately, WWWW does not support the clipboard, which makes it impossible to cut and paste names, addresses, and phone numbers between it and your database files.

I'm currently tailoring the phone-book and calender utilities that come with the **CanDo** ($149.95, INOVAtronics) authoring system to fit my own needs. Unfortunately, CanDo lacks clipboard support, but it does support ARexx, so you can, for example, create applications that exchange information between your CanDo phone list and your database.

WORDS AND IMAGES

Writing letters, reports, proposals, scripts, and so on demands a fast word processor that handles multiple type styles, color, and graphics; supports both resident-printer and bitmapped fonts; supports PostScript output for presentation-level prints; and shows you a decent approximation of printed output on screen as you write.

The latest versions of **excellence!** ($199.95, Micro-Systems Software) and **ProWrite** ($175, New Horizons) are fast enough to challenge the text-only word processors. Excellence! 2.0 fits the above criteria and supports the Amiga's clipboard. It can generate an index and table of contents, can handle a document larger than RAM, and it lets you set up your own keyboard shortcuts with an easy-to-use macro facility. It multitasks internally, so you need not close the spelling checker, for instance, to correct something else on a document. If it offered script columns, ARexx support, and kept up to speed on large documents, excellence! would be hard to beat.

ProWrite 3.0's speed, features, and ARexx potential make it my pick. It is easily the fastest for entering, cutting, and pasting text. It handles parallel columns for video scripts and can give you a word count very quickly. ProWrite does not support PostScript directly, but does so via a companion program, **ProScript** ($49.95, New Horizons). ProScript, however, needs to be updated to support columns. ProWrite does not support the clipboard or multitask while printing. I would also like to be able to search and replace by text color and style, and to automatically reformat noncontiguous sections of text (all subheads, for example) without selecting and reformatting each one individually.

Part of being in business is looking good. This means that you need professional-looking invoice forms, rate sheets, business cards, brochures, and advertisements. For invoices, statements, and rate sheets, you can use a word processor, but for really professional forms with boxes and lines, you need a desktop-publishing program. Design know-how is an additional requisite for producing your own business cards, brochures, and ads.

Any of the top three page-layout programs, **PageStream** ($299, Soft-Logik) **Professional Page** ($395, Gold Disk), or **Saxon Publisher** ($395, Saxon Industries), can handle these jobs well. Those who do not have PostScript printers will appreciate the ►

Your Economic Vote

AS THE AMIGA software market matures, enlightened developers will support more features that make your life easier. Here are some things to look for when deciding who will get your business-software dollars:

- Standard keyboard shortcuts for common operations. For example, Right Amiga-S, -X, -C, -V and -Q key combinations for save, cut, copy, paste, and quit functions, respectively.
- Both mouse and keyboard access to every command, button, and requester gadget, with listings of key combinations for commands in the pull-down menus.
- Support for both medium and high-resolution screen displays (with or without overscan), and for high-resolution monitors, including the Viking Moniterm and Commodore 2024.
- A mechanism for storing defaults, including the number of colors, color palette, font, and a path to the place where you normally store that program's files.
- Support for outline fonts, where this is applicable.
- Support of the Amiga clipboard for cutting and pasting vector graphics (using the standard Amiga IFF-DR2D format) and text between applications.
- Internal multitasking of all processes capable of running concurrently.
- ARexx support—for controlling one application with another, automating information sharing, and creating large integrated applications by combining several off-the-shelf applications and then controlling them through your own front end.
- Functional, easy-to-use file requesters akin to those of AmigaDOS 2.0.
- Compatibility with AmigaDOS 2.0.
- Thorough, easy-to-understand documentation with tutorials.

Finally, we also need Commodore to get behind an IFF formatted-text standard (or RTF) and a standard for outline fonts. □

—JK

Abacus
Dept. L12, 5370 52nd Street SE
Grand Rapids, MI 49512
Phone 616-698-0330
Fax 616-698-0325

fact that both PageStream and Pro Page can output at the printer's best possible resolution.

Another way to print PostScript files to non-PostScript printers is to use **PixelScript** ($149, Pixelations), a PostScript interpreter. PixelScript can print any Postscript file and works best with high- ►

Power to the Business

THANKS TO MULTITASKING, no Amiga program is an island. But while multitasking makes software integration possible, you also need other tools to tailor your system to your needs and to increase your efficiency. What can macro languages, the clipboard, ARexx, and other tools do for you? For the purposes of explaining all this, I have divided the use of computers into four levels. The longer and more demandingly you use your business software, the more you will see a need to move to the higher levels.

Level One: Loneliness

The first level involves using your Amiga software without custom macros and without sharing information with other applications. You can certainly get work done in this level, but even if you run multiple programs simultaneously, these applications coexist as strangers in an elevator: riding in the same box but staring up at the numbers and not talking to each other.

Level Two: Muttering

Programs operating on level two are also lonely, but at least they can talk to themselves. Level two brings us to macro languages, which allow you to customize specific programs by adding everything from keyboard shortcuts for often-used commands to complex database or spreadsheet applications. Macro languages vary from program to program; some are fairly easy to master, some are tougher, and for the most part, each program employs a different system. The exceptions are programs that use ARexx as a macro language. As more programs do this, you'll have to learn only one macro language for many programs. In addition, the doors will be opened for you to move on to level three.

Level Three: Conversing With Others

Two standard Amiga means for your multitasking programs to communicate are via the clipboard and ARexx.

With programs that support the Amiga's clipboard, a buffer-like device, you can cut or copy text, bitmapped brushes, or structured drawings from one program and paste them into another. The clipboard has traditionally not been well supported on the Amiga, but that is starting to change. One reason is that Commodore has made clipboard support easier with AmigaDOS 2.0.

Programs that now support the clipboard use it for text, usually in the recommended IFF-FTXT (Formatted TeXT) form. I hope that developers eventually agree on an expanded FTXT format specification to allow the exchange of text between programs without loss of complex formatting. There are also IFF formats for bitmapped (IFF-ILBM) and structured (IFF-DR2D) graphics, and programs ought to support those as well.

ARexx is another standard that is getting growing support. It is a programming language (specifically, an inter-process and macro command language) with some of the simplicity of BASIC but with the added power to connect other programs and let them share data. ARexx also lets you add features to programs. For example, ProWrite comes with an ARexx macro that allows it to do math calculations, and MicroFiche Filer Plus can use ARexx to dial a client's phone number.

You can build an integrated application from any combination of ARexx-compatible software. With ARexx, for example, you could set up your word processor to open a database, locate a name and address, and put these into a letter you are writing—at the touch of a key. As another example, the integration of Office's word-processing and page-layout programs is the kind of feature ARexx makes possible between any ARexx-compatible word-processing and page-layout programs.

Level Four: Singing In Harmony

To make your Amiga really sing, you can use an authoring system such as CanDo or AmigaVision to create your own programs. You can then tie these programs into other applications by using ARexx.

Using authoring systems to build front ends for combinations of programs makes the Amiga a modular software construction set, even for non-rocket-scientists. As a nonprogrammer, I used CanDo to build, in just a few hours, a replacement environment for the Workbench that lets me start any program on my hard disk from a pull-down menu or key combination.

I am also modifying the calendar and phone-book example programs that come with CanDo, and plan to make them work with ProWrite via ARexx to move addresses and scheduling notes back and forth. Eventually, I will also program the phone book to dial, time, and log my calls and calculate my business phone bill for tax records.

Getting There

How do you get to stages three and four? First, buy software that supports the necessary features (see the sidebar "Your Economic Vote," p. 60). ARexx is included with AmigaDOS 2.0, or you can purchase it separately. Then, to learn more about ARexx, check out the macros and examples that come with ARexx-compatible software. You can also find ARexx macros for a variety of programs on BBSs (electronic bulletin-board systems). Users' groups and magazines are other good sources for new macros and advice. Finally, do not be intimidated by the idea of adding features to programs, making software work together, and creating your own customized applications using authoring systems. You will find that these powerful capabilities will benefit both your business applications and your creative work. □

—JK

resolution printers like the Hewlett-Packard DeskJet or a laser device.

ALL IN ONE?

If you are looking to save money, you might be tempted by the combination packages that provide multiple business functions. One such package, **Pen Pal** ($149.95, SoftWood Company) combines a word processor with a nonrelational database. The database is useful for simple lists, but lacks an important feature: a form-style entry mode. The word processor offers flexible support for printing black-and-white and color bitmapped graphics and fonts or combined bitmaps and printer fonts, but does not support PostScript. It is reasonably fast and lets you include lines and boxes in documents, but does not support ARexx or the clipboard. All in all, this package is better for the home market than for business.

Micro-Systems Software offers **The Works! Platinum** ($199.95), which combines five programs (spreadsheet, word processor, database manager, telecommunications program, and print utility), four of which the company also sells separately. Clipboard support lets you copy and paste between the programs, but the package does not support ARexx. **The Critics' Choice** ($249.95, The Disc Company) is a repackaging of a word processor, database, and spreadsheet, all from different developers. The programs included in both these systems are not up to professional level.

Can **Gold Disk Office** ($295, Gold Disk), with its text-processing, database, spreadsheet, page-layout, and graphics programs do it all? Judging from a prerelease version, Office looks to be a combination of some existing Gold Disk products. These programs are not really integrated, however, except for the fact that the text processor can share data with the page-layout program and the spreadsheet's cell notes. Only the spreadsheet supports ARexx. Curiously, none of the programs supports the Amiga's clipboard (the manual says the spreadsheet does; maybe the final version will), so moving data between programs means saving it to disk in one program and then loading it into another.

Office's database program is not powerful. The text processor does not support multiple fonts and graphics, but relies on its tie to the page-layout program for those capabilities. The spreadsheet looks adequate, and while its structured business graphics are laudable, you cannot save them in IFF-DR2D format. Although the integration of Office's word-processing and page-layout programs is useful, a combination of PageStream and ProWrite is a better choice.

Our "portrait" of the Amiga artist as business person may not be finished, but I hope that you can begin to see yourself in at least a rough sketch. Your creative assistant the Amiga is a capable business assistant, too, and, with the right software system, it will enable you to devote more energy to your most important resource—your creativity. ■

Jamie Krutz is a freelance writer, editor, composer, and video producer/director/editor/photographer.

Manufacturer's Addresses

Abacus
5370 52nd St. SE
Grand Rapids, MI 49512
616/698-0330

Blue Ribbon Bakery
1248 Clairmont Rd., Suite 3D
Atlanta, GA 30030
404/377-1514

Brown-Wagh Publishing
130-D Knowles Dr.
Los Gatos, CA 95030
408/378-3838

Gold Disk
5155 Spectrum Way, Unit 5
Mississauga, Ont.
Canada L4W 5A1
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Suite 209B
Dallas, TX 75231
214/340-4991

Intuitive Technologies
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Mike Lehman: 408/646-9147
MediaMAXX: 800/456-MAXX

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West Palm Beach, FL 33414
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New Horizons
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Austin, TX 78745
512/328-6650

Pixelations Inc.
PO Box 547
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508/393-7866

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Software
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Urbana, IL 61801
217/384-2050

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Canada K2G 5A8
613/228-8043

Soft-Logik
11131 S. Towne Sq., Suite F
St. Louis, MO 63123
314/894-8608

Software Visions
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San Diego, CA 92129
800/527-7014

SoftWood Company
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AmigaVision is an authoring system for a mere $149 that allows the Amiga to live up to its full potential.

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As you might imagine, you don't have to be a programmer to turn your abstract ideas into reality. All you have to be is you.

Can it extend the use of application software you already own? Is there multitasking interaction with other programs? Is it dBase III™ database compatible? Yes...yes...yes, to all these queries.

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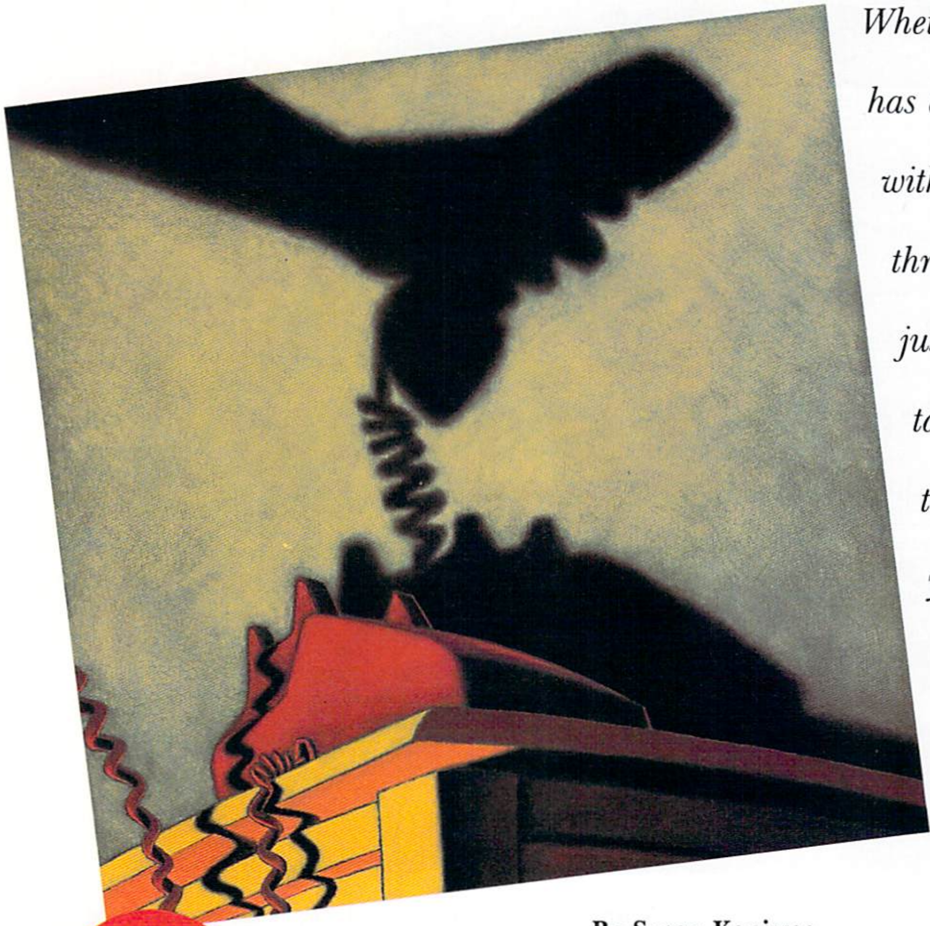
Call 1-800-66-AMIGA soon to find the location of your closest Amiga dealer. For you, it's another confirmation of what you knew before most people: namely how smart Amiga is and how shrewd its owners were when they bought one.

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Dial M . . . For Mail Order



Whether you are a veteran who has assembled a complete system without ever stepping foot through a dealer's door, or just a novice considering taking the plunge for the first time, there are a few things you should know about the mail-order game before you pick up the receiver.

By Susan Kaniwec

While Alfred Hitchcock would have chosen murder (or some lesser order of mayhem or malevolence) to be lurking on the other end of the line in one of his films, most computer mail-order shoppers would prefer their calls to go off without the slightest hitch, so to speak. Unfortunately, that is not always the case. While many mail-order companies are reputable, unexpected problems frequently arise. If you don't know the rules of the game—and your rights and methods of recourse—you may wind up an unwitting actor in a consumer nightmare worthy of a macabre Hollywood B-movie.

Mail order is the most efficient and cost-effective way of purchasing merchandise, but, as in any game, there are those who excel at ordering by mail and those who do not. Knowledge, technique, and strategy are the keys to good play, along with mastering the basic formula: shopping for, purchasing and receiving merchandise, and, if necessary, returning it. With coaching and effort, you can improve your game and avoid the pitfalls.

Prepare To Plunge. . . and Watch Those Hidden Costs!

The first rule of the game is to know what you want. Take stock and assess your needs, browse through magazines, read reviews and talk to other computer users. If possible, try to observe the product in action at a computer show or on a friend's system. Decide which version you want, and verify compatibility and memory requirements. When you've done your homework on the product, start scanning mail-order advertisements to find out who has what you need.

Investigate the various companies that offer your product by calling them. While you are on the phone, take note of various clues: Do they answer the phone promptly in a professional manner, or do they leave ►

ILLUSTRATED BY JOHN NICKLE

you hanging while mindless music assaults your eardrums? Do they have a toll-free number? Do they have a knowledgeable sales force? Do they offer technical support after you purchase, or simply give you the manufacturer's number and let you fend for yourself? If you're shopping for hardware, ask to be patched through to technical support and question them about the use of the device.

Once you are ready to buy, make sure you learn the *full* cost of the item. Because the primary reason for shopping by mail is to save money, you may be unwittingly lured into a purchase by an exceptionally low price. Beware of these bargains—there may be hidden costs. While you have a mail-order company on the line and *before* you make your purchase, ask about any additional charges—there may be more of those than you think.

An item's price in an advertisement may not include shipping charges, which can sometimes increase the total price substantially. Handling charges cover the merchant's cost of processing your order—whether you keep the item or not—and usually are not refundable. Some merchants charge a restocking or return fee when you send back working (undamaged) merchandise. You may be charged as much as 20% of an item's price, especially if it is a rare or high-demand item, because the merchant may be protecting himself against the expense of tying up stock that would have been sold to someone else or the extra cost of returning special orders. These expenses lurking in the background are often either buried in the ad's fine print or mentioned by sales representatives only *after* you have given all your order information.

GETTING THE GOODS

Every game has a payoff, so before placing your order, you should always ask when you can expect to receive your merchandise. Some mail-order houses can tell you if an item is in stock or back-ordered when you place your order. Some gauge the shipping date by the number of orders processed per day and the current volume of orders. All mail-order houses depend on the US Postal Service or a commercial carrier (UPS, Federal Express, etc.) to get your order to you. Many vendors offer rush service and can deliver your order in a few days for an extra charge.

Mail-order merchants are required to ship your order within 30 days of receiving your check or money order and full mailing instructions. If they fail to do so, you have the option to cancel for a full refund or to wait for your order. If you choose to wait, you still may cancel at any time before the merchant ships. Refund is to be prompt (two weeks maximum). For complete information on mail-order regulations, you can obtain a copy of the *Business Guide to the FTC Mail-Order Rule* by writing to Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Another excellent source is *The Consumer's Resource Handbook*, from the US Office of Consumer Affairs, available free of charge by writing the Consumer Information Center, Pueblo, CO 81009. The book contains a directory of corporate consumer departments, trade associations, third-party dispute-resolution programs, Better Business Bureaus, and government consumer-protection offices by city, county, and state.

When you purchase with a credit card—either through the mail or over the phone—that 30-day clock begins to tick from the time your card is charged—not necessarily when you place your order. Any delay in charging the card or processing the order buys time for the merchant. Once your card is charged (you can call your credit-card company and ask for the exact date), your merchandise should be shipped within 30 days. You have much more leverage using a credit card rather than a personal check. Your card company can intervene, if necessary, to dispute a charge, or you can instruct them to withhold payment until you receive the goods in satisfactory condition. Call your card company to find out more about your options in such cases.

TAKE THAT BACK!

No matter how well you have managed your strategy up to this point, the mail-order game is by no means over. For one reason or another, merchandise often must be returned. Be aware of the rules concerning refunds, exchanges, and return of damaged goods or products under warranty. Returns fall into three categories: damaged goods, manufacturer's error, or customer dissatisfaction.

The most obvious reason for return occurs when you get an unpleasant surprise instead of what you ordered. In this case, the vendor should pay for the return trip. If the carton is damaged or opened when it arrives, you have the right to refuse it. Write "refused" on the unopened box and it will be returned by the US Postal Service for no extra postage. Call the company, explain what you did, and ask that your merchandise be sent again (they will wait to receive the returned package). If it was shipped UPS or Federal Express, don't sign for it if you suspect the contents may be damaged, and they will return it.

If you open the package and the product is broken, smashed, melted, or otherwise mangled or inoperative, call the company. Some require a return authorization code (RAC), and it is always a good idea to get one. You should always save the original box, instructions, and packaging in case you actually have to return the product. When shipping an item back to the company, use ►

SPECTRACOLOR

Graphics In Motion

SpectraColor, the first 4096 color paint program with animation...



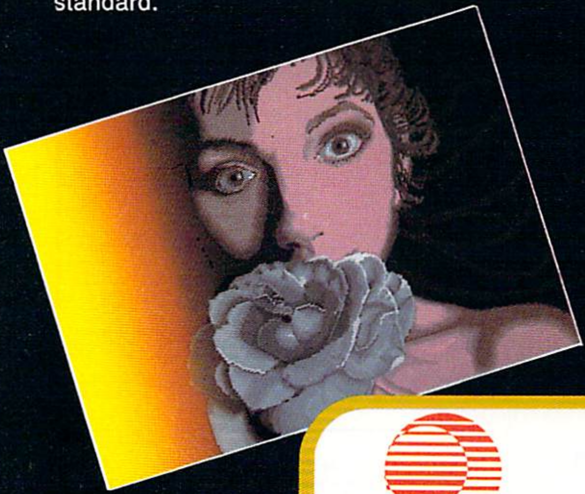
SpectraTut © 1990 L. Markoya

SpectraColor features all of the professional-level tools you've come to expect, plus much more! Now you can create top-quality animations using the rich colors and textures of the Amiga's powerful HAM mode!

Offering fully automated animation features based on a point-and-click interface, **SpectraColor** doesn't require you to guess at coordinate positions. Just draw the path of the animation on the screen, choose and effect (wrap, bend, rotate, and stretch are just a few of the possibilities), and click "Render." Even use HAM ANIM Brushes to add another layer of impressive results! And, the number of frames is limited only by your available memory.



Developed by BazboSoft, the creators of Photon Paint, **SpectraColor** is the ultimate refinement of pure artistry on the Amiga, destined to become the new Amiga HAM standard.



SpectraColor's remarkable new color manager ends the task of wandering endlessly over tiny areas of color hoping you find the one you need. Now, use the HAM Magnification window to see colors as larger blocks, allowing for quick and precise color selection.

Exciting and advanced new tools such as airbrush, pixelization, pantograph, stencil, transparent and shadow effects make **SpectraColor** the HAM artist's dream come to life!



*(Above) **Kate** by Cheryl Austin. Created with SpectraColor. (Left) SpectraColor's innovative new Color Manager.*

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certified US Mail, UPS, or Federal Express, so that you have a receipt and a vehicle for tracing the package should it not reach the manufacturer.

Returning goods because of customer dissatisfaction is a gray area. If you discover that something you ordered is not as interesting, compatible, or useful as you thought it might be, you may not be able to return it. By industry-wide policy, software cannot be returned once you have broken the seal on the envelope that holds the disk(s), so be sure to read the packaging carefully before opening. Doing your homework before you buy should help you avoid making this *faux pas*.

In the rare instances when you and the mail-order company disagree, it is important to have accurate records, including the advertisement, your cancelled check or credit-card bill, and the company's full name, address, and phone number, as well as the full names of the company representatives with whom you spoke. Should you find yourself in a deadlock with the company, you may need to call upon a third party for assistance. You can contact the Better Business Bureau in the state in which the company is located, refer to a copy of *The Consumer's Resource Handbook* for sources of help, or call the customer-service department of the magazine where you saw the company's advertisement.

The best defense against mail-order mayhem is knowing what you want, making enquiries before you buy, and listening for tell-tale warning signs. Don't place orders with companies that do not answer your questions satisfactorily or clearly state their policies. Take control of the situation, ask questions, and compare a few companies before you place your order. If you follow these guidelines, you will be an educated, competent mail-order player who should emerge from the game as a winner. ■

Susan Kaniwec gained her consumer-rights expertise from manning the customer-service desk at AmigaWorld *for two years. She has since taken her act on the road to put the arts world back in order as an administrator at the world-renowned McDowell Colony in Peterborough, New Hampshire. Write to her c/o* AmigaWorld, *Editorial Dept., 80 Elm St., Peterborough, NH 03458.*

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THE NEW MK II VERSION IS HERE!!

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ONLY

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BUT THAT'S NOT ALL... AMIGA ACTION REPLAY GOES EVEN FURTHER BY PROVIDING AN UNBELIEVABLE RANGE OF TOOLS FOR BOTH THE HACKER AND PROGRAMMER ALIKE

SAVE THE ENTIRE PROGRAM IN MEMORY TO DISK
Special compacting techniques enable up to 3 programs to fit on one disk. Now saves directly to disk as Amiga Dos - reloads independently of the cartridge - even transfer to hard drive! Works with up to 2 Megs of Ram - even 1 Meg Chip Mem (Fatter Agnus).

UNIQUE INFINITE LIFE/TRAINER MODE - NOW MORE POWERFUL
Allows you to generate more and even infinite lives, fuel, ammo, etc. Perfect as a trainer mode to get you past that "impossible" level. Very easy to use.

IMPROVED SPRITE EDITOR
The full Sprite Editor allows you to view/modify the whole sprite set including any "attached" sprites. RANGE OF IMPROVED FEATURES.

VIRUS DETECTION
Comprehensive virus detection and removal features to protect your software investment. Works with all presently known viruses.

SAVE PICTURES AND MUSIC TO DISK
Pictures and sound samples can be saved to disk. Files are saved directly IFF format suitable for use with all the major graphic and music packages. Samples are displayed as screen waveform.

SLOW MOTION MODE
Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!

RESTART THE PROGRAM
Simply press a key and the program will continue where you left off.

FULL STATUS REPORTING
At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.

POWERFUL PICTURE EDITOR
Now you can manipulate and search for screens throughout memory. Over 50 commands to edit the picture plus unique on screen status "overlay" shows all the information you could ever need to work on screens. No other product comes close to offering such dynamic screen handling of frozen programs!!

MUSIC SOUND TRACKER
With Sound Tracker you can extract the complete music in programs , demos,etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!

AUTOFIRE MANAGER
From the Action Replay II preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power? Joystick 1 and 2 are set separately for that extra advantage!

DISKCODER
With the new "Diskcoder" option you can now 'tag' your disks with a unique code that will prevent the disk from being loaded by anyone else. 'Tagged" disks will only reload when you enter the code. Very useful for security.

PREFERENCES
Action Replay II now has screen colour preferences with menu setup. Customise your screens to suit your taste. Very simple to use.

DISK MONITOR
Invaluable disk monitor - displays disk information in easy to understand format. Full modify/save options.

DOS COMMANDS
Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc.

DISK COPY
Disk Copy at the press of a button - faster than Dos Copy. No need to load Workbench - available at all times.

BOOT SELECTOR
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- Notepad
- Disk handling - show actual track, Disk Sync pattern, etc.
- Dynamic breakpoint handling
- Show memory as HEX, ASCII, Assembler, Decimal
- Copper assemble/disassemble

REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN IT'S FROZEN STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR THE DE-BUGGER OR JUST THE INQUISITIVE!

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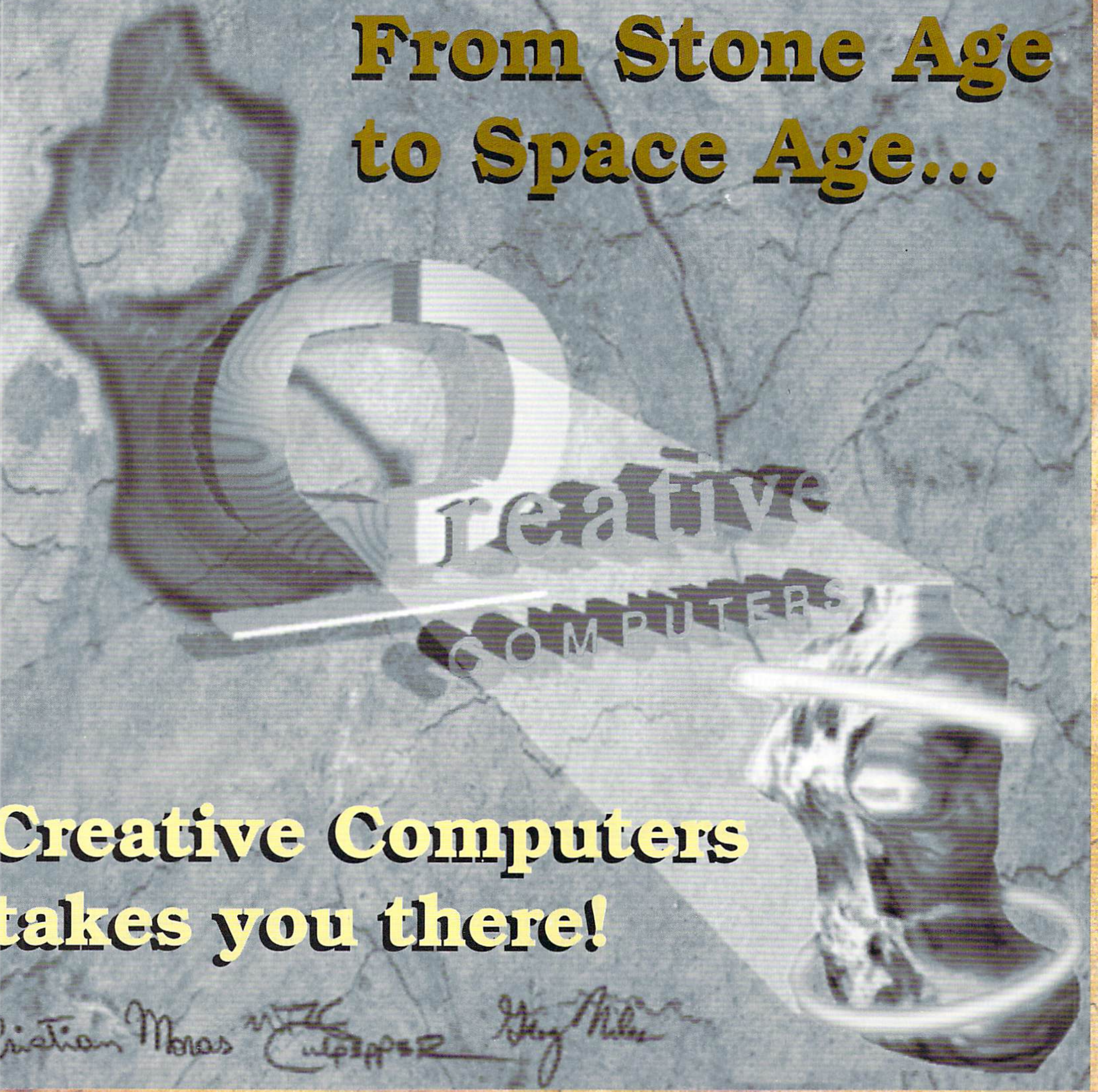
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The Creative Edge™

Vol. 1, Issue 4

The Newsletter of Creative Computers, serving the Amiga community

From Stone Age to Space Age...



Creative Computers takes you there!

A Message from the President...

The Amiga is finally catching on. In the last year we have seen many new substantial products from Commodore which are making it lot easier for us to sell Amigas. Have you ever thought of how hard it used to be to sell an Amiga 2000 to anyone who wanted to DTP and explain why the display flickers or why they needed to shell out an extra $1000 for a flicker fixer and a multiscan monitor? The Amiga 3000 and current solutions for the Amiga 2000 series are state of the art technology. The Amiga 3000 is a speed-demon with its 25Mhz 68030 chip, its flicker-free display, a super-fast hard drive, a well-designed and polished user interface, and plenty of 32-bit expansion to boot for a price that won't make a dent in your checkbook. Did you know that the expansion bus in the A3000 is driven at 25Mhz while Nubus on the fastest and most expensive Mac IIfx runs at 10Mhz? This is not to mention that the Amiga has been multitasking (i.e. able to run many applications at the same time) while the Mac's multitasking is still an unrealized promise. New introductions from Apple are a clear indication that Apple wanted to cost reduce the Mac to become more competitive. What they ended up with is a $3800 20Mhz box which has only one expansion slot and the math coprocessor is an option! They went on to discontinue some of their best selling CPUs which had more slots because they were costing them too much to build. I don't know about you, but to me the choice is clear. Now more than ever we need to stand behind Commodore and sell Amiga 3000 technology to everybody we talk to. We also need to sell Amiga 2000s with GVP accelerators and Video Toasters to anybody in video (yes, the Video Toaster is here and our price is $1495).

The Amigas are doing well. We at Creative Computers predict that this will be the Amiga's best Christmas. We will make sure that we do everything we can to help make that happen. We support Commodore. We support our vendors. And most importantly, we give unequalled support to our customers. Like our new 30-day money-back guarantee on hardware (check out the ad for details). You can't go wrong in purchasing the item you were waiting for. If you don't like it, send it back! If you do, keep it and chances are that your productivity will increase manyfold while you would be supporting the vendors in the Amiga community.

You're looking at 8 pages worth of Creative Computers space in Amigaworld. No company has ever taken that much space in any Amiga magazine, EVER. That's because none has been willing to spend the associated costs - until we did. The truth of the matter is that it's hard to justify that kind of investment in the Amiga business. But to us that doesn't matter; we are committed to bringing you information, the best service, and the best products for the best prices. And when Commodore becomes a 4 billion dollar company, we will still be your number 1 source for Amiga products.

P.S. These 8 pages are extracts from what the new revised "Creative Edge", our newsletter/catalog to be released this Christmas. It's new and it's now in full color glory.

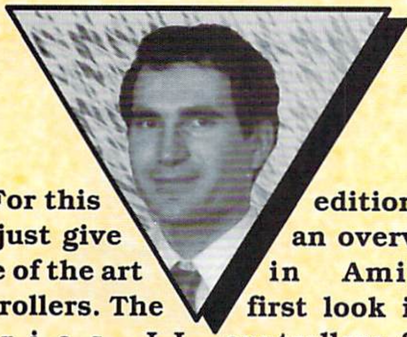
Best Regards,
Frank Khulusi
President

About the cover...

At Creative Computers, our philosophy is to help bring you the tools to make your Amiga more exciting, more productive, and more fun! That's why I chose the theme featured on the cover of this issue of The Creative Edge, which in its creation is the best example I can imagine of the progress we've made over the years. Granted, we Amigans were never in the stone age, but the incredible tools that have become available to us since the inception of the Amiga almost make it look that way. The background was a scanned photograph of a cave painting, modified to introduce our figure. ASDG's Professional ScanLab and The Art Department, along with the Sharp JX-450 color 24-bit scanner, were used for this purpose. Both the Creative Computers logo and the space age version of the figure were ray-traced in 24-bits by Impulse's Turbo Silver SV, rendered on an 25MHz Amiga 3000. The marble texture on the figure is from Microillusions' Photon Paint Expansion Disk.

Greg Niles, Advertising Manager

HARD DRIVEN...



by Kelly Keith - Technical Support Manager

For this edition of Hard Driven we will just give an overview of the current state of the art in Amiga hard drive controllers. The first look is at the new GVP Series II controllers for the A2000 and A500. These controllers offer good hard drive speed and up to 8MB of fast ram using either 1MB or 4MB SIMM's, as well as removable media and tape backup support. The GVP installation software is new and improved, and is once again up there with some of the best installation software available. The A500 version looks exiting, with a beautiful case and a unique "mini-slot" that could house hardware like accelerators, fax modems, and other interesting additions. Leaving GVP we move on to the Supra A500XPs, definitely the best selling line of A500 hard drives to date. Comparable to the GVP in features and value, the A500XP has also earned a very good reputation for speed and reliability. The IVS Trumpcard Pro offers extremely high speed when used in conjunction with a 68030 accelerator card, has very good removable media support, and is the first that I've seen with what they call a "shared-scsi network." This 'network' allows for an single hard drive to boot and control several computers, with individual boot partitions in addition to shared partitions. It seems to me that the SCSI interface is practically setup for simple high speed networking. Hopefully this will evolve into something much greater than its current (however nice) application. The final controller discussed will be the ICD Advantage 2000. The Advantage, by virtue of it's low price, great performance (works well in A3000 under WB2.0), clean hardware and drive bracket, very nice software, and excellent removable media support, is a best buy at Creative's $139 price. All four of the above manufacturers have recently shown real time animated movie sequences captured from real commercial movies and played back directly off the hard drive. In other words, the computer is pulling frames off the drive as fast as it can display them (or faster!). Any of these hard drives mentioned would be a good choice to purchase.

In closing, I'd like to say that it's getting easier and cheaper to be hard driven, and the performance and productivity increases associated with hard drive support are becoming indispensable.

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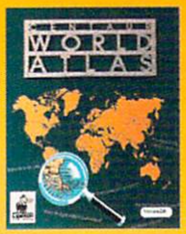
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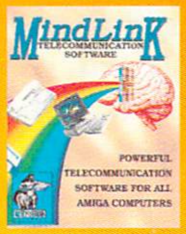
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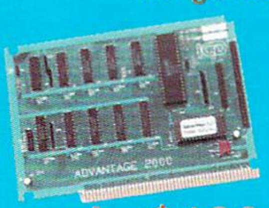


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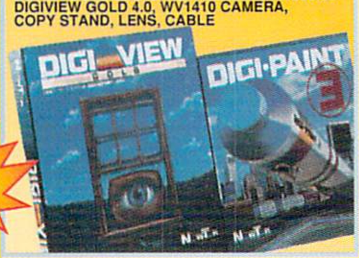
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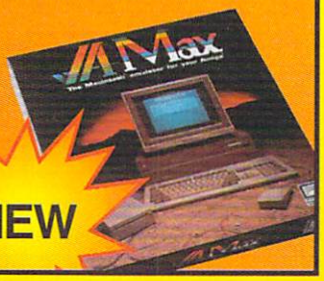
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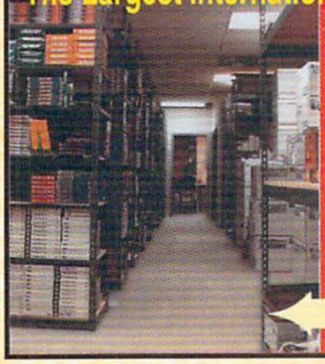
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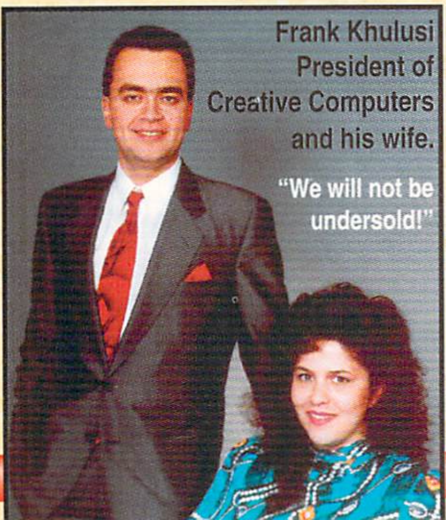
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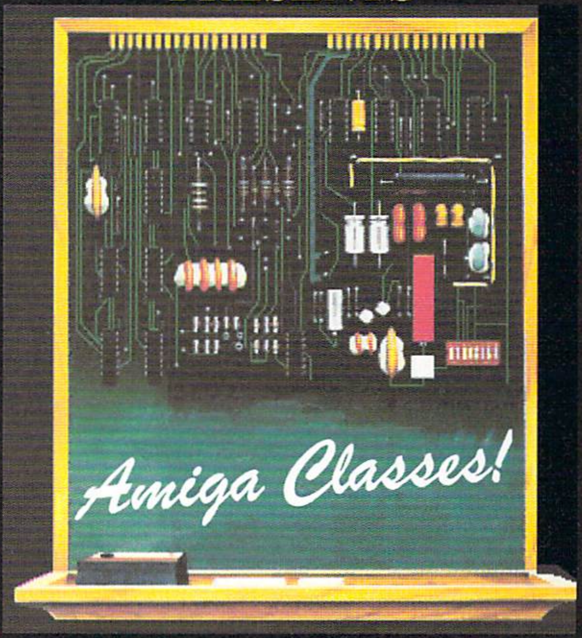
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Graphics Arsenal

A special roundup of useful support programs and relevant hardware of interest to Amiga artists.

#22

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

By Joel Hagen

WHILE THE MAJORITY of "Accent" columns focus on tips and techniques using major Amiga paint programs, let's shift gears for the moment and highlight some of the supporting cast of software and hardware providing assistance to the Amiga artist. The items in our sample all represent products that I have found interesting and helpful over the past couple of years.

Editor's Note: The public-domain and shareware programs mentioned below are available on the People/Link (P/Link) and GEnie networks. Both sources are given after the name of the program where possible. In the P/Link references, the Library (Lib.) number refers to the P/Link "AmigaZone" library in which the file is located. The file number following the GEnie citations are, of course, the GEnie "Amiga File" numbers. Contact People/Link at 800/524-0100; GEnie at 800/638-9636.

LOVELY LANDSCAPES AND "SHARING" THE WEALTH

Many Amiga graphics enthusiasts are frustrated by their limited rendering skills. Interesting programs exist to generate images from scratch that can either stand alone or provide a starting point for a painting. **Scene Generator**, a commercial program by Brett Casebolt ($49.95, Natural Graphics) creates beautiful fractal landscapes with rocks, vegetation, water, and clouds. You can adjust the level of detail, overscan, viewing angle, lighting, and other parameters prior to rendering. You can save the image as an IFF file and load it into a paint program for further work—as I did in the illustration that accompanies this column. The images also serve as great backgrounds for 3-D objects, providing welcome relief from checkerboard floors.

Fracgen (P/Link, Lib. 5, #12070), shareware by Doug Houck, lets you draw seed lines from which the software generates fractal forms. There is an excellent library of seed segments in its Nature library, including "beach grass," "fiddlehead," and "evergreen." These produce natural forms that, again, you can save and use in paint programs. Evergreen—which I also used in the accompanying illustration—makes wonderful trees that you can stamp as brushes into your painted landscape. Other libraries include the classic geometric fractal seeds.

Hermes' Formula (GEnie, #4279; P/Link, Lib. 4, #17025), shareware by Hermes, allows you to enter simple or complex 3-D spatial functions to be graphed in color by the software. It also includes a good library of useful formulas. Beyond its direct value as a math package, Formula can also produce effective IFF images you can use in spacecraft bridge displays, fake map grids, and other fun, pseudo-scientific or artistic imagery.

A really odd but addictive shareware program is **RGS** (GEnie, #6607; P/Link, Lib. 7, #16938) by J. H. H. Lowengrad. A sonic spectrum editor, RGS allows you to paint a sonogram using specialized brushes and tools, then synthesize and play the corresponding audio waveform. I find it fascinating trying to paint sonograms that will synthesize as speechlike sounds, and I have managed to create interesting alien speech this way. Although RGS has extensive built-in paint capabilities, I often load RGS's screen into DeluxePaint III ($149.95, Electronic Arts) in order to use the latter's Shade and Blend tools. RGS also allows you to analyze sound files, converting them into playable visual sonograms. You can map any IFF image into the sonogram window—for instance, you could synthesize the sound of your favorite Richard Nixon picture.



In "Moon From Planet 7" (above), the landscape was created from Scene Generator, the trees were produced by Fracgen, and the tower, moon, and compositing were done in DPaint.

Makeanim (GEnie, #4417; P/Link, Lib. 6, #11903) is one of several public-domain utilities that convert a list of IFF files into a standard Anim. This is a simple way to create HAM animations, and Makeanim is a great utility for experimental animation.

Showanim (GEnie, #5811; P/Link, Lib. 6, #17939), Gary Bonham's freely distributable Anim player, offers low memory overhead and good Anim controls. It becomes especially handy combined with Diskmaster ($49.95, Progressive Peripherals), which allows you to customize eight-character commands. I rename Showanim as "anim" and enter it in place of Diskmaster's command #1 as "anim -c" (the suffix is showanim's looping command). This configuration allows me to show Anims from Diskmaster by clicking on a series of animation files and then sequencing through them with the Escape key. While the technique works for version 1.1 of Diskmaster, I have not had the same success with later versions of the program.

Image-Processing Programs and Fun Gadgetry

One often finds it desirable to have several IFF images share a common palette. This allows for clean compositing of picture elements with a paint program (as in last month's "Accent") or via such presentation software as The Director II ($129.95, Right Answers Group), CanDo ($149.95, INOVAtronics), or Deluxe-Video III ($149.95, Electronic Arts). **Makepal**, by Keith Doyle and on The Director's Toolkit disk ($39.95), does a good job of automating this task. Makepal analyzes a string of IFF files and computes an optimized average palette. Through such programs as PIXmate ($49;95. Progressive Peripherals), The Art Department ($89.95, ASDG), and Digi-View's software ($199.95, NewTek), you can then use Makepal to remap all the images to a common palette.

Speaking of **The Art Department**, I would like to emphasize that this newcomer to the image-processing arena is an excellent, high-performance piece of software. Anyone serious about Amiga graphics should take a good look at it. By storing all images in 24-bit format, the program can carry out all operations at the 24-bit level before rendering those images to the screen. The resulting quality is remarkable. The Art Department produces the best scaling of IFF files I have seen.

Power Packer (GEnie, #6248; P/Link, Lib. 4, #19910), by Nico Francois, is a handy shareware utility packed with features. Its main function is to compress other programs—a useful bit of economy that allows the Amiga artist to put more programs onto a hard drive, RAM disk, or floppy. For instance, a program such as PIXmate can be compressed to about 60% of its original file size. Nothing special is needed to decompress and run the programs.

On the hardware side, my recommendation is more for fun than anything else. **VoRecOne** ($159.95, Impulse) is a trainable voice-recognition device. Although its level of reliable vocabulary recognition puts it more in the experimenter's realm than in the professional's, I have a lot of fun with it as an interface to paint programs. By training a VoRecOne script to activate keyboard commands, I can turn all menu bars off on the Amiga screen, put a microphone around my neck, and start painting away. The brush becomes a magic tool as it changes character in response to voiced commands. I use Color, Shade, Blend, Comma, Brush, Pixel, Spare, Fill, and a few other commonly used tools from among the DPaint shortcuts. As long as I limit the vocabulary, I can attain a fairly high level of reliability, although I still find myself occasionally suckered into fills when I shout "Blend." Remember, something like this is really for experimental use, not bread-and-butter assignments.

So, in the future, don't limit your choice of graphics tools to just one paint program. Look around and use anything and everything that can help you create a better, more satisfying image. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope for a reply.

Console Device Controls

By Eugene Mortimore

The Amiga's console device is always working for you. From the moment you boot, it automatically cooperates with AmigaDOS, Intuition, and most other built-in devices to assure proper machine input and output behavior. Its automatic keyboard-reading and window-writing mechanism springs from a hidden set of internal communication rules. The Intuition window/console-device linkage is managed by specific types of control strings defined by the ANSI 3.64 terminal-definition standard. To control the console-device/window linkage in a C-language program, you must learn how to represent these control strings in C.

After hooking the console device to an Intuition window (see the program below), you can control the text displayed in your window with console-device, control-string byte sequences. The console device's internal routines were written to recognize these strings, which your program can both send (write) and receive (read).

WRITE AWAY

For writing, each complete control-byte sequence consists of a set of control-byte subsequences. Each of these is preceded by a control-sequence "introducer" byte. The entire byte sequence ends with a "null" (0x00) byte. The usually helpful *Amiga ROM Kernel Reference Manual: Libraries and Devices* presents a cryptic summary of these control strings, so I'll try to clarify its descriptions and give you some useful examples.

For instance, the manual tells you to set the top offset for window text display as:

```
9B <offset> 79
```

Now, how do you translate that description into a C-language programming sequence? You do it by sending strings to the console device in the form of a hex-byte character stream, a series of individual bytes. These control strings always start with the 0x9B command introducer byte and may contain one or more command-specific control bytes that inform the console device which command is being requested. Between these two you can include some optional command-specific "information" bytes. Be sure to terminate the whole string with a null (0x00) byte. For example, to turn the window's text cursor off (make it invisible), you declare and send the following null-terminated, five-byte hex string:

```
{0x9B, 0x30, 0x20, 0x70, 0x00}
```

This string has three control bytes packaged between the first and fifth bytes, but has no information bytes. Notice that each individual character byte is preceded by the "0x" hex descriptor. Each comma-separated entry in this string is a distinct console-device byte, and the last one is the null byte.

This string therefore defines precisely five byte characters that you are sending to the console device. By console-device, internal-routine convention, the first byte (the control-sequence introducer) is a 0x9B byte. This tells the console device that all subsequent bytes until the next 0x9B constitute a distinct control string. The null byte tells the console device where the string ends.

If you later want to make the text cursor visible again, just send the following four-byte, null-terminated hex string:

```
{0x9B, 0x20, 0x70, 0x00}
```

This string has two control bytes sandwiched between the introducer and null terminator bytes, but, again, includes no command-specific information bytes.

To set a window's text display to begin at the 55th raster scan line, send the following null-terminated hex string to the console device:

```
{0x9B, 0x35, 0x35, 0x79, 0x00}
```

Notice here that each 0x35 is the hex code for decimal ►



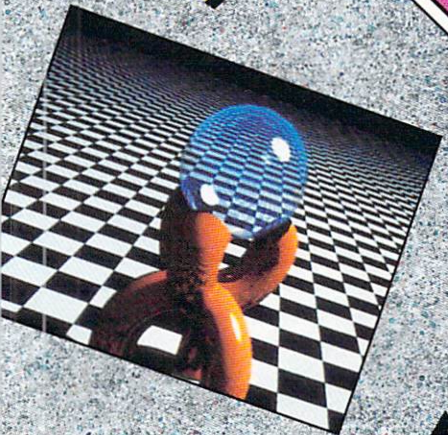
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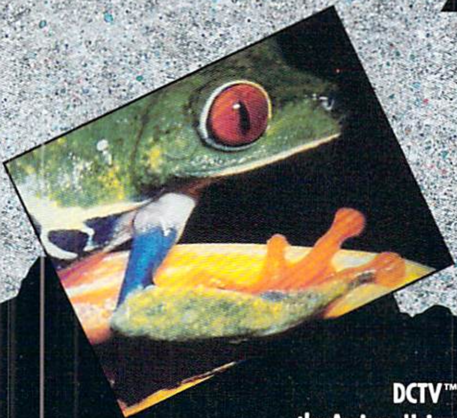
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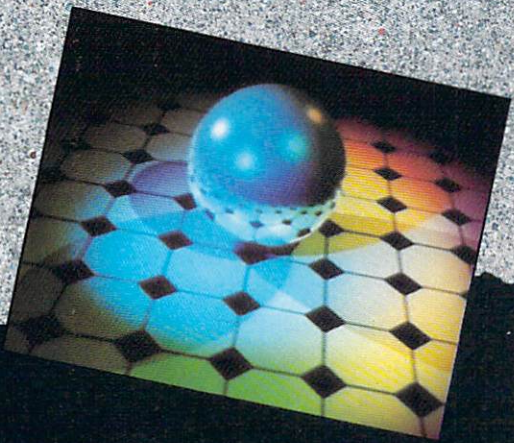


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5. (While this string tells the console device to begin displaying text at the 55th raster scan line, you can fill in any other appropriate position.) Unlike the others, this string has two command-specific information bytes (each one 0x35) and one command-specific control byte (0x79) following the 0x9B introducer byte.

Now, to accomplish both of the preceding actions with one write string, send the following:

{0x9B, 0x35, 0x35, 0x79, 0x9B, 0x20, 0x70, 0x00}

Here you have two 0x9Bs, each introducing a new control string; again, the entire string has to be null-terminated to tell the console device where it ends.

To both home the cursor and clear the text window to its very end, send the following:

{0x9B, 0x48, 0x9B, 0x4A, 0x00}

To send a request to the console device asking for reports that tell your program when a specific window becomes active, a gadget is pressed or released, or a disk is inserted or removed, use the following string:

{0x9B, 0x33, 0x37, 0x38, 0x31, 0x35, 0x31, 0x36, 0x00}

Finally, to request that the console device send your program a report of the current text cursor position, send the following:

{0x9B, 0x6E, 0x00}

Character Reading

The console device also creates and then sends a continuous stream of byte characters that merges all input-event bytes with all bytes that represent specifically requested window-related-event reports. Your program continuously monitors (reads) this byte stream in order to recognize any such byte subsequences.

For example, the cursor-position write string shown above would be especially useful if you were developing a word-processing program and wanted to monitor a window's text-cursor position at all times. You would send (write) that string to the console device, and it would thereafter report the current cursor position as part of your program's console-device read byte stream. Then, whenever your program needed the current cursor position, it would read the console-device byte stream and look for a current cursor position report. Each report entry would come to your program as a column/row position.For example, the string

{0x9B, 0x34, 0x30, 0x3B, 0x31, 0x32, 0x52}

indicates that the cursor is currently at column 40 (0x34, 0x30) and row 12 (0x31, 0x32). The 0x3B byte represents the ; character, often used as a byte separator for the information bytes.

Notice, once again, that each decimal digit is represented by a hex code. Here, the initial 0x9B byte and the later 0x3B and 0x52 bytes—sandwiching the actual position-information bytes—enables your program to recognize this position report in the console-device's reading of the byte stream.

Automatic Rewriting

To illustrate some of the above ideas, Listing 1 shows a small program that reads console-device-supplied keyboard characters, displays (writes) them in one window and then displays an expanded set of related characters in another window. Study this program to understand how the console-device reading and writing mechanisms are set up and used.

Eugene Mortimore is an Amiga developer and the author of Sybex's Amiga Programmer's Handbook. *Write to him at 2620 Center St., Bethel Park, PA 15102.*

Listing 1. Console read/write demo program. (Tested with the Manx 3.6 and Lattice (now SAS) 5.04 compilers.)

```
#include <exec/types.h>
#include <exec/memory.h>
#include <intuition/intuition.h>
#include <stdio.h>

char *ReadWord[] = {"a", "b", "c", "d", "e", "f", "g", "h", "i", "j"};
char *SubWord[]  = {"address", "byte", "character", "device", "error",
                    "flag", "gadget", "handle", "input", "jack" };

char *writeString;
char consolePrep[] = {0x9B, 0x35, 0x35, 0x79, 0x9b, 0x30, 0x20, 0x70, 0x00};

struct IntuitionBase *IntuitionBase;
struct Window   *window1,  *window2;
struct MsgPort  *msgPort1, *msgPort2;
struct IOStdReq *readRequestWindow1, *writeRequestWindow1, *writeRequestWindow2;

struct NewWindow newWindow1 =
  {10, 10, 200, 100, 0, 1, CLOSEWINDOW, ACTIVATE, NULL, NULL, (UBYTE
  *)"Window1", NULL, NULL, 5, 5, -1, -1, WBENCHSCREEN};
```

►

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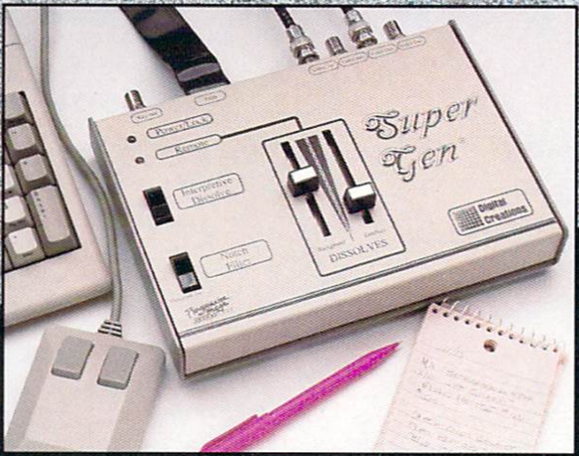
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```
struct NewWindow newWindow2 =
  {230, 10, 200, 100, 0, 1, CLOSEWINDOW, NULL, NULL, NULL, (UBYTE *)"Window2",
   NULL, NULL, 5, 5, -1, -1, WBENCHSCREEN};
/* ****************************************************************** */
main()
{
  char ConsoleRead(); void ConsoleWrite();
  int i, j, openWindow1, openWindow2;

  IntuitionBase = (struct IntuitionBase *) OpenLibrary("intuition.library", 33L);

  window1 = (struct Window *) OpenWindow(&newWindow1);
  window2 = (struct Window *) OpenWindow(&newWindow2);

  msgPort1 = (struct MsgPort *) CreatePort("Window 1 Console Device Message Port", 0L);
  msgPort2 = (struct MsgPort *) CreatePort("Window 2 Console Device Message Port", 0L);

  readRequestWindow1  = (struct IOStdReq *) CreateStdIO(msgPort1);
  writeRequestWindow1 = (struct IOStdReq *) CreateStdIO(msgPort1);

  writeRequestWindow2 = (struct IOStdReq *) CreateStdIO(msgPort2);

  readRequestWindow1->io_Data   = (APTR) window1;
  readRequestWindow1->io_Length = (LONG) sizeof(*window1);

  openWindow1 = OpenDevice("console.device", 0L, readRequestWindow1 ,0L);

  writeRequestWindow1->io_Device = readRequestWindow1->io_Device;
  writeRequestWindow1->io_Unit   = readRequestWindow1->io_Unit;

  writeRequestWindow2->io_Data   = (APTR) window2;
  writeRequestWindow2->io_Length = (LONG) sizeof(*window2);

  openWindow2 = OpenDevice("console.device", 0L, writeRequestWindow2 ,0L);

  ConsoleWrite(writeRequestWindow1, consolePrep);
  ConsoleWrite(writeRequestWindow2, consolePrep);

  writeString[1] = '\0';
  for(i = 0; i < 10; i++)
  {
    writeString[0] = ConsoleRead(readRequestWindow1);
    ConsoleWrite(writeRequestWindow1, writeString);
    for(j = 0; j < 10; j++)
    {
      if(strcmp(writeString, ReadWord[j]) == 0)
      {
        ConsoleWrite(writeRequestWindow2, " ");
        ConsoleWrite(writeRequestWindow2, SubWord[j]);
      }
    }
  }
  CloseWindow(window1); CloseWindow(window2); exit(0);
}
/* ****************************************************************** */
char ConsoleRead(ioStdReq)
struct IOStdReq *ioStdReq;
{
  char readChar;
  ioStdReq->io_Data = &readChar;
  ioStdReq->io_Length = 1;
  ioStdReq->io_Command = CMD_READ;
  (void) DoIO(ioStdReq);
  return readChar;
}
/* ****************************************************************** */
void ConsoleWrite(ioStdReq, string)
struct IOStdReq *ioStdReq;
char *string;
{
  ioStdReq->io_Data = (APTR) string;
  ioStdReq->io_Length = -1L;
  ioStdReq->io_Command = CMD_WRITE;
  (void) DoIO(ioStdReq);
}
```

■

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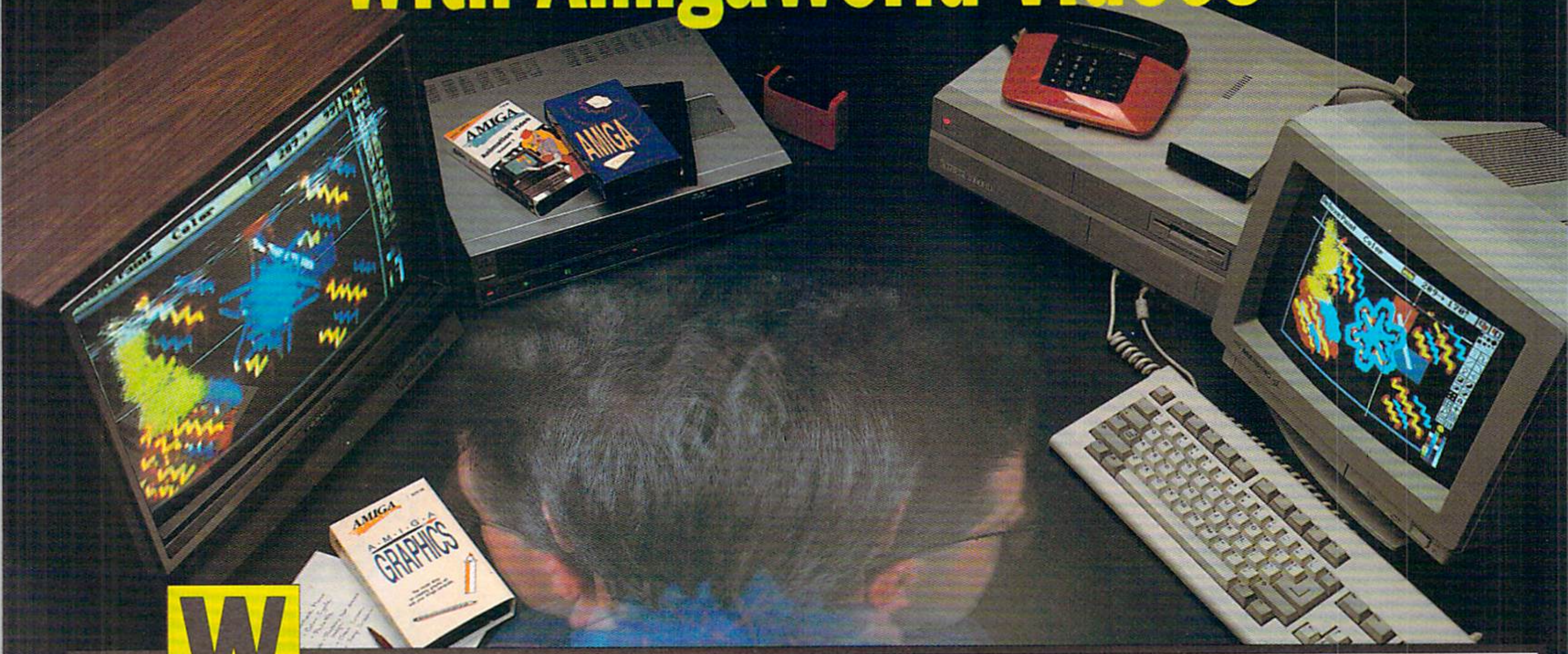
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Scripting Suggestions

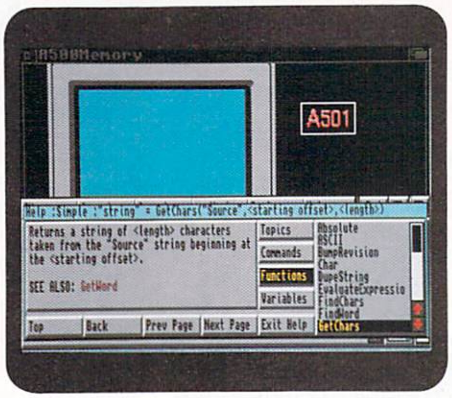
By Steve Gillmor

MANY PROFESSIONAL programmers are already using the new wave of Amiga authoring systems to speed their prototyping and development. For the rest of us, putting windows and buttons on the screen is easy, but the underlying scripting that makes things happen is another story. Even AmigaVision, with its iconic flow-chart metaphor, requires you to deal with variables, IF-THEN-ELSE, GOTO, and all those scary-sounding programming words that you hoped would be taken care of by some artificially intelligent interface.

Don't give up, for plenty of help is available. Not only are there an increasing number of example courses, decks, and stacks that you can dissect and cannibalize, but also in the case of such event-based programs as UltraCard (Intuitive Technologies, $50) and CanDo (INOVAtronics, $149.95), there is a wealth of applicable HyperCard information in public-domain stacks and *The Complete HyperCard Handbook* by Danny Goodman (Bantam Books, $29.95).

UltraCard's script language (UltraTalk) is similar in syntax and power to its Macintosh counterpart, HyperTalk. Both of these and CanDo's CanDoSpeak are English-like in that they do not mask the meaning of their commands. Even if you have never used UltraCard, you can probably guess that the statement, "Jump to Frame 3 of Stack 'Help' " tells the program to go to a collection of frames entitled Help and to put the third frame on the screen.

If you can't decipher a command, you can test it by bringing up UltraCard's



CanDo's interactive editor prompts you through your scripts.

Chat window (press F6) and typing the lines in question. All the stacks that come with UltraCard (or the freely redistributable browser), including the Control-Room and Help, were constructed with the program and are good examples to study for techniques. You can view and edit these or design your own by entering Modify mode from the menu (or F2) and selecting Script from the Edit menu. Let's construct an example stack that illustrates some basic scripting strategies, and then we'll see how the same application would appear in CanDo.

CLICK AND REACT

Before jumping into the code, always write down a plan of what your application will do. First, our example displays a button for each Amiga model. Depending on which the user clicks, the program jumps to a screen with buttons for the various types of peripherals available for that model. After the user picks a category, the program shows a shopping list of peripherals. As the user clicks on each item of interest, the program should accumulate and display a running total cost.

By the same token, do not try to prototype the complete application from start to finish; begin by supplying the minimum frames, objects, and scripts to get the system running. Then, once you verify the expected output, you can go back, optimize the scripts and fix problems.

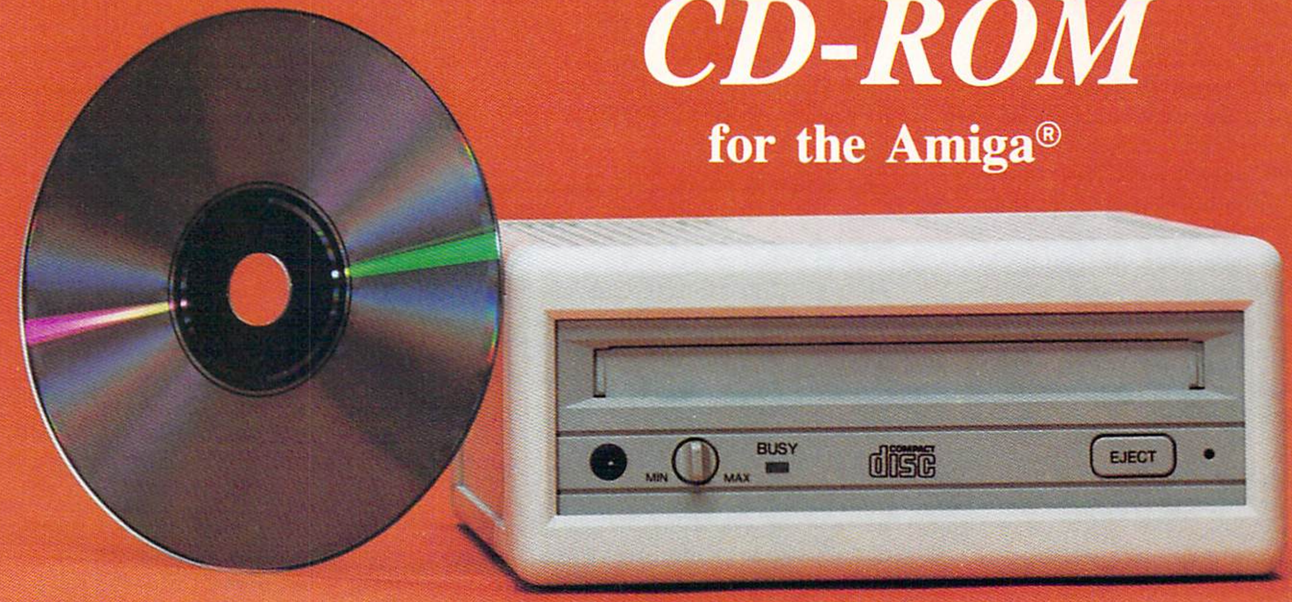
Let's assume that our stack for the example will display an introductory frame with five button objects labeled A500, A1000, A2000, A2500, and A3000. Open the A500 button and enter the following script to drive it:

```
Select.Up:
global computer.type
put "A500" into computer.type
jump next
End_Select.Up
```

Select.Up: in UltraTalk corresponds to mouseUp in HyperTalk and Release in CanDoSpeak; all alert the program that the user just clicked and released the left mouse button and that it should perform the following commands. We then designate the variable computer.type as global, so that it can be accessed from anywhere in the stack. Next, we put the string "A500" into that variable, and finally jump to the next frame. The other four button scripts are identical, except for what they put in computer.type. To save time, copy and paste the A500 script to each of the buttons, substituting the appropriate model number in each. ►

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The "next" screen to which each button advances the user is a screen of new buttons that identify various choices of peripherals and software. Each button (Memory, Drives, Monitors, and so on) contains a script that evaluates the contents of computer.type, then jumps to the appropriate frame. The straightforward approach would be:

```
Select.Up:
if computer.type is "A500"
jump to frame "A500Memory"
endif
if computer.type is "A1000"
jump to frame "A1000Memory"
endif
...and similar IF statements for each model
End_Select.Up
```

Here we evaluate the global variable computer.type and jump to the frame of appropriate Memory board choices. These If statements can begin to add up. You can direct the program's flow more efficiently by using the concatenation operator (&&). Instead of the 15-line If statement approach, all you need is the line:

```
jump to frame computer.type && "Memory"
```

No longer does the program have to test each If statement. By attaching the value of the variable computer.type ("A500" for example) to the string "Memory" (the example button's value) in the Jump command, you are telling the system to go to the frame A500Memory, the next in the sequence. You can test the concatenation operator (or any other command) in the Chat window. Open it and type the following line:

```
put "A500" into computer.type
```

Press the Return key and type:

```
showmsg computer.type && "Memory"
```

Press RETURN again, and the computer will display (showmsg) the concatenated value:

```
A500Memory
```

Call Scripts from Scripts

Following this line, the program branches to the A500Memory frame, with its set of option buttons representing products. Instead of jumping to a new frame when the user clicks a button, this time the script calls a subroutine that adds the product's price to a grand total. Here's the script for the A501 button:

```
Select.Up:
call Add.To.Total(149.95) --calls user-defined function
End_Select.Up
```

The second line calls the subroutine Add.To.Total and passes it the price of the A501 board, 149.95. All UltraTalk subroutines are saved in the Stack script, which is shared by all the other scripts. Subroutines are user-defined functions that allow you to conserve memory and reduce development time by storing a series of commands in one place, instead of duplicating them word for word in multiple scripts. The descriptive phrase after the two dashes is a comment; it's ignored by the interpreter when the script is compiled for execution, but serves as a signpost to the programmer. Now that we've called it, let's examine the Add.To.Total subroutine:

```
Add.To.Total:
global grand.total
add parm(1) to grand.total
put grand.total into display.total
End_Add.To.Total
```

The 149.95 in the Add.To.Total call is received by the subroutine as parm(1) or the first parameter. (A second parameter would be parm(2), and so on.) The routine then adds parm(1)'s value (149.95) to that of the global variable grand.total. Finally, it displays the new grand.total in the display.total single-line field at the bottom of the frame.

Same Words, Different Language

While the syntax in CanDo is somewhat different, scripting is equally easy, as you can use the extensive interactive editing system to learn the language. Editing a button script gives you a choice of Click, Drag, Doubleclick, and Release options. For example, click on Release and type the first line of the A500 button:

```
Let ComputerType = "A500"
```

If you leave off the Let, CanDo's error system tells you that statement is an unknown command and refuses to let you leave the editor until you correct the problem. You can click on Help to get information about commands, functions, and variables, and to choose from a scrolling list of icons that facilitate script generation of graphics, text, AmigaDOS, ARexx, and other commands.

Following the A500 branch of the UltraCard script, the next step in the program is to display a new screen. While we used "jump next" in UltraTalk, here you click on the Deck icon and select the button labeled Next to insert the following script line:

```
NextCard
```

Again, copy, paste, and edit the other four buttons, and you've finished scripting the first card.

Most object names are descriptive enough that you will not need to comment your script. If you do prefer a verbose mode, set CanDo's AUTOCOMMENT ON Tool Type in the Info requester on Workbench. In the editor, you precede your comments with a semicolon (instead of UltraCard's two dashes). If you try to place a comment on a line with no other instruction, CanDo will strip it out when you exit the editor. To make it stick, use the NOP command at the beginning of the line:

```
NOP ; this is a No-Operation with a comment
```

CanDo features a concatenation operator, as well, to make your scripts for the Memory and other buttons on the second card equally efficient. The CanDo statement looks very similar to the UltraCard line, but note the different concatenation operator:

```
GoToCard ComputerType || "Memory"
```

As with the previous language, in CanDo you create Routines (subroutines) separately from objects and store them in a common pool, roughly analogous to UltraCard's Stack script. To call a Routine, we embed a Release script in the A501 button on the third card, such as:

```
Do "AddToTotal",150
```

I rounded off the A501's price to compensate for CanDo's lack of support for floating point. The AddToTotal Routine itself follows:

```
Let GrandTotal = GrandTotal + arg1
SetText "DisplayTotal",GrandTotal
```

To access the SetText command, click on the Field icon in the editor. To set up the syntax, click on the "Set this field's contents to..." gadget and type Grand- ►

Total into the resulting requester. When you press RETURN, the editor generates the full command. You need to remove the quotes from GrandTotal, however, to make the script work, because otherwise CanDo assumes GrandTotal is a string, not a variable.

The advantages of separate subroutines are twofold: You can group related statements and modify multiple sections of your program with a single change. In this case, you can get around the lack of floating-point support. First, convert the price of each peripheral by removing the decimal point, so that the A501 button script reads:

```
Do "AddToTotal",14995
```

Now, change the Routine to incorporate these changes: (Type the LetFloatGrand Total. . . command on one line; do not break as shown.)

```
Let GrandTotal = GrandTotal+arg1
Let FloatGrandTotal = InsertChars(".",GrandTotal,
        numberofchars(GrandTotal)-2)
SetText "DisplayTotal",FloatGrandTotal
```

A more elegant and elaborate solution is to use ARexx to handle the floating point math and then send the result back to your deck. ARexx scripts are another good place to mine for algorithms and AmigaDOS routines you can adapt for your authoring system needs.

Whichever program you choose, remember that the scripting techniques you employ in one can be reworked and reused in the others with minimal alterations. If you need help with specific points, PeopleLink (800/826-8855) holds a hyper/multimedia conference every Monday night at 10 PM Eastern, 9 PM Central. You will regularly find Eddie Churchill of INOVAtronics, UltraCard author Mike Lehman, and other stackware developers in attendance. Have your questions ready. ■

Steve Gillmor brings his background as a film and video director and record producer to his work as a hyper/multimedia developer. Write to him c/o AmigaWorld *Editorial Dept., 80 Elm St., Peterborough, NH 03458 or look for him as MAGELLAN on P/Link.*

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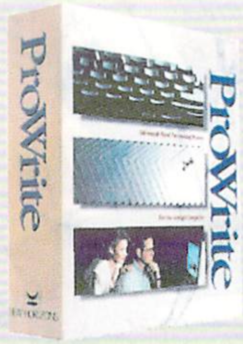
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● Products had not been released at press time.

▼ Products have been marked down in price.

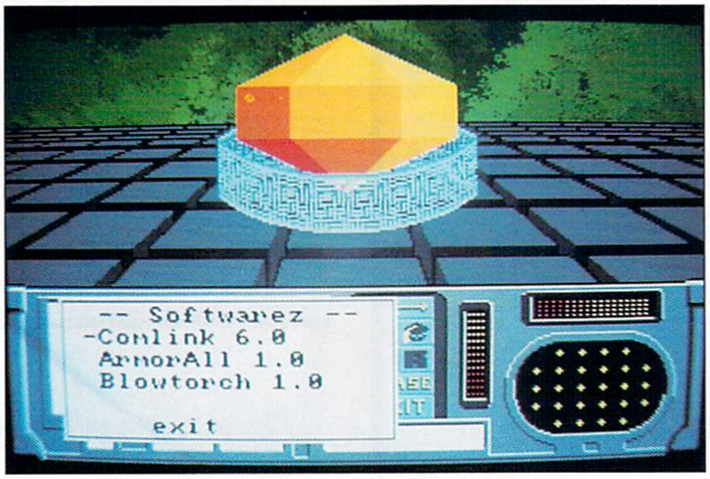
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THE GAME PRESERVE

NEUROMANCER

By Peter Olafson

YOU'RE NOT KICKING in doors, but breaking into computers, in this graphic adventure based on William Gibson's cyberpunk novel. More precisely, you're in seedy Chiba City, Japan, in 2058 and something's gone a bit queer in "cyberspace"—a three-dimensional sea of data where databases take geometric shapes and computers defend themselves. Your friends, "cyberspace cowboys" like yourself, are disappearing. Ugly rumors are floating around this ugly town.



Okay, you cyperspace cowboy, puzzle your way out of this.

Surprisingly, this is a decidedly nonviolent game. Knowledge is power in Chiba City, and you'll spend your time trading information and building an array of software and hardware to penetrate systems and extract data. This war of passwords is one of the most language-intensive adventures I've encountered and a welcome change from the usual endless combat. The environment isn't as deep or varied as in some games, but the static backdrops use light well for a nice overall feel.

In a few respects, Neuromancer does punk out. The box label promises hard-disk installation, but the program doesn't deliver it. The Devo-penned score, which you'd think would be a big plus, sounded unextraordinary. The single game disk can be copied, but you must use a codewheel every time you sign on the PAX BBS system, and that's a drag. The interface could use work, as well.

You can move your character quickly from screen to screen with the keyboard, but at the expense of the game's flow. Walking the character toward the screen edges means holding down the mouse button. I found this stocky guy occasionally trapped at the left edge of the screen, and, after escaping, leaving behind a snapshot of himself that remained in the screen border throughout the session.

Don't worry: The occasional sloppiness of execution never infects the richness and consistency of content and style. Neuromancer is a blow struck for the thoughtful adventure. *($44.95, Interplay Productions, 3710 S. Susan, #100, Santa Ana, CA 92704, 714/549-2411. One megabyte required.)*

BANDIT KINGS OF ANCIENT CHINA

By John Ryan

RICH AND COLORFUL, Bandit Kings of Ancient China (BKAC) places you in 12th century China, a time when 105 exiled bandit heroes traveled ancient China in search of honor, fame and, of course, fortune. Your ultimate goal is to gather enough political and ►

Crib Notes

By Peter Olafson

WHOEVER SAID THAT cheaters never prosper didn't own an Amiga. Fact is, people who use the cheat modes, or "backdoors," that are built into most Amiga games prosper very nicely, thank you. They are rich in memories of final screens, high and hidden levels, and, sometimes, hidden messages. They go swiftly to places the rest of us labor mightily with joystick and mouse to reach.

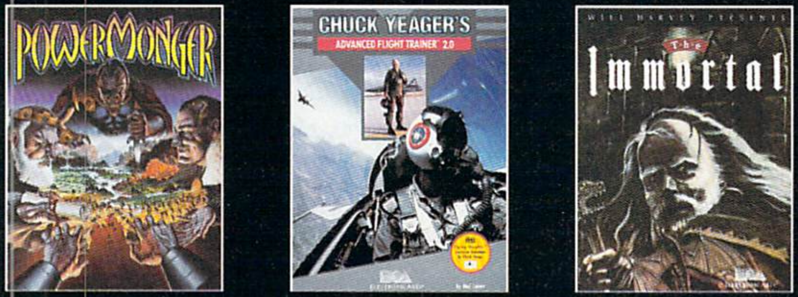
The idea behind this column has never been to show you how to cheat, but to give you a companion on the dark staircase or to translate a riddle into lay terms. So I haven't run any cheats—until now. Maybe I'll regret this in January, but as a holiday gift, here are some cheats that I've assembled from a variety of sources over the last three years. I'll even admit to using one or two.

• Let's start with a fairly new one: the easily accessible Invincible mode built into Shadow of the Beast II (Psygnosis, $59.99). Rather than whacking senseless the first bloke you meet—the one who challenges you—just respond to him, "Ten pints." No one can kill you now—you can't even quit the game, in fact—but you still can be caught in various traps and forced to reboot. (Maybe with ten pints in you, you just *think* you're invincible.)

• Last month, I said I knew only of code-based cheats for Blood Money and the original Shadow of the Beast (Psygnosis, $39.99 and $49.99, respectively). Naturally, no sooner were these words set in type when word arrived of a noncode-based cheat for Shadow of the Beast that bestows unlimited lives (hold down mouse and joystick buttons during part or all of ►

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popular support and military power to overthrow the dastardly Gao Qiu (an iron-fisted ruler who seeks to unseat the true Emperor) by 1127, when barbarians invade China.

You start the game as an exile and must quickly settle in one of the 49 provinces. As its new owner, you must cultivate and build the land to generate income, hunt or buy food to feed the people and any armies you build. Your administrative duties include traveling to province towns to recruit followers, visiting markets to sell excess food and fur, and buying or building weapons and ships for the wars that will inevitably engulf your region. You must not only train and equip your troops well, but also play politician. Make alliances with other bandit heroes and ensure your followers' loyalty, either through bribery or by swearing brotherhood with them.

You'll soon discover that BKAC is as much role-playing as it is strategy. Your character, as well as the other "non-playing" characters, have such attributes as strength, wisdom, integrity, mercy, dexterity, and courage. These variables influence your success (or that of your chieftains) when hunting, making weapons, training, waging war, or forging treaties and alliances. Men also get tired and must rest, or riots, desertions, and other ills can occur as loyalties flag.

Before long, you'll have the means to expand into unsettled territories. (The color-coded map of China continually updates who controls which provinces.) You can promote followers to become chieftains with varying levels of authority. You can administrate the new territories yourself, issue orders as to how the chieftains should rule, or give them autonomy. Each rules according to his abilities.

If alliances break down or you refuse to pay the exorbitant taxes demanded by Gao Qiu, war will come to your region. If one of your autonomous chieftains governs the territory attacked, the battle is quickly resolved and the results displayed. If you or a sworn brother is occupying the territory, or if you initiate the war, the scene switches to a hexagonal map, complete with terrain obstructions, castles, weather, and wind direction. You may take up to ten armies into battle, and your strategy must revolve around effective use of your generals' abilities. Magic, archery fire and clever use of terrain all have variable effects on the outcome of the battle.

BKAC is a easy to play, yet can only be mastered if you understand much of the political and social philosophy that is at the heart of ancient China's culture. The game does not base its world on what *you* are doing; uprisings, natural disasters, and political upheavals occur independent of your actions. With astounding depth, Bandit Kings of Ancient China will challenge and delight you for hundreds of hours. *($59.95, Koei, 1350 Bayshore Highway, Burlingame, CA 94010, 415/348-0500. One megabyte required.)*



Can you overthrow Gao Qiu and bring peace to ancient China?

THE PLAGUE

By David T. McClellan

MY FINAL IMPRESSIONS first: The Plague is appropriately named. There's a plague of recent hack/slash/ blast arcade games on the market, and The Plague is one more of the same.

The plot is familiar: Blast your way through enough plague-mutated beasties to finish a level so you can blast more beasties on the next. On a given level, the same monsters (lizardmen, bouncing bloodshot eyeballs, acid pools) occur at roughly the same places, so there's little surprise involved

Continued on p. 114

the intro sequence), along with a spirited bulletin-board debate over whether it works. As far as I can tell, it doesn't. I've heard, however, that it does work with the British version.

- One of the earliest Amiga cheats to emerge was for Arkanoid (which, sadly, is no longer on the market). Pause the game, type "Dsimagic" (no quotes, however; here or for any of the other quotes below) and resume the game. A capsule labeled DS heads your way. Catch it, and the B, C, D, E, L, P and S keys will trigger other capsules, each with distinctive properties. F takes you straight to the end game.

- Dust off your copy of Sword of Sodan (also vanished from dealer's shelves), get the highest score and type in "Nancy" as your name. Unlimited lives is your reward in your next game, even if you aren't Nancy.

- Another oldie: In Barbarian (Psygnosis, $39.99), type 04-08-59. The background turns from black to dark gray, and you'll be next to invincible. Careful: A couple of things—like falling into pits—can still wipe you out.

- Here's one to help you sample a *very* difficult game. At the title screen of Batman: The Movie (Data East, $44.95), type "JAMMMMM." (I've seen versions of this tip with both fewer and more M's.) You'll see a "Cheat Mode On" notice; then F10 will take you through the levels and you'll have lives to burn.

- What miniature golf course doesn't have a "19th hole"? So naturally, the nine-hole Zany Golf (Electronic Arts, $19.95) course has a tenth hole. On the ninth hole, if you ever get there, you'll notice a little mouse hole at which eyes occasionally appear. When the eyes turn red—the mouse has perhaps been kept awake by your bad putting—tap your ball into the hole and you'll be there.

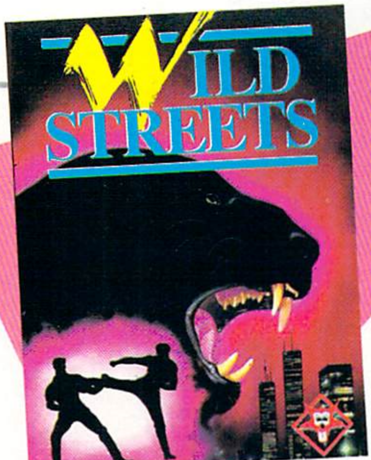
- I've spilled the shift-FUND trick for SimCity (Maxis, $49.95) before. (It produces $10,000 a pop, but earthquakes if used repeatedly.) To avoid the earthquakes, use it like mad before you start building to stock a warchest. If an

Continued on p. 114

Slick up your joystick it's hot!

ACTION!

Fight in the city slums...





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AdLib SOUND

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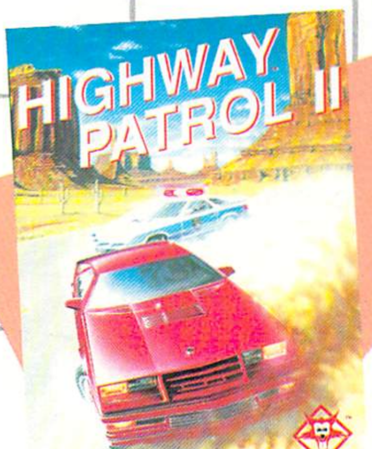


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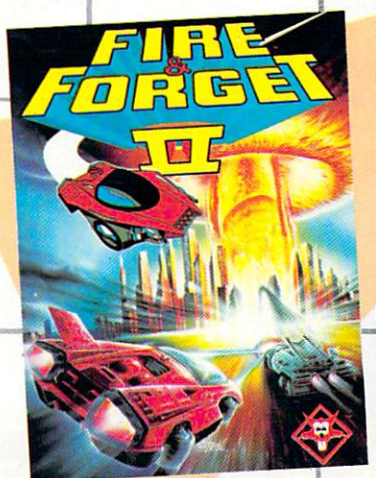




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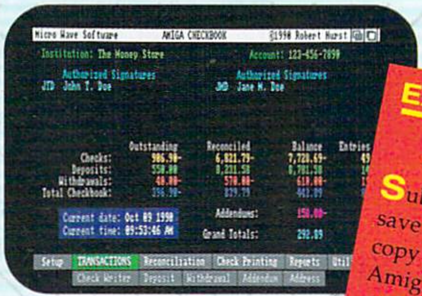
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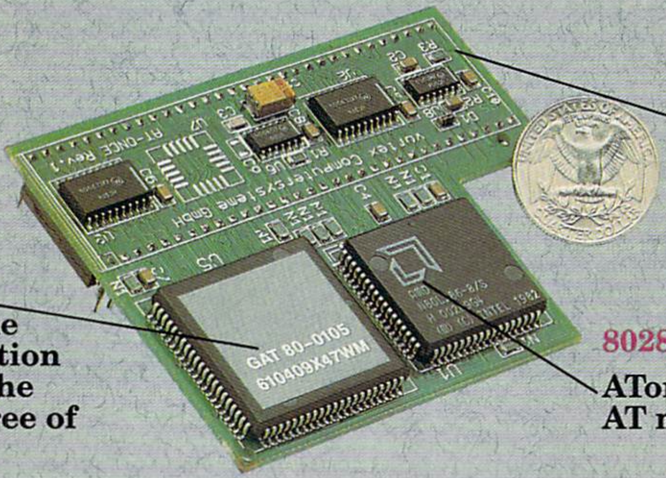
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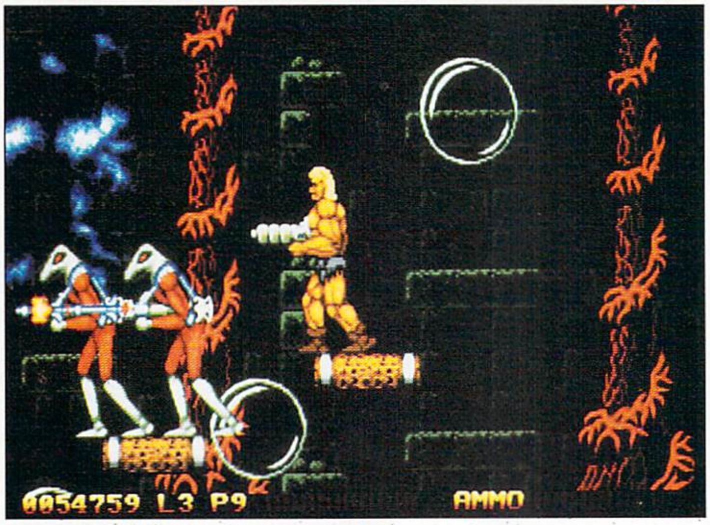
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From p. 110
after you work your way across.

Your blaster-toting barbarian (why someone who can afford a high-tech energy weapon waltzes around in leather diapers, I'll never know) starts out with three lives, each with a certain amount of life-force. This gets drained as monsters bash or shoot you and you fall in acid. When your life-force is gone, you get another life and start over at the beginning of the highest level you reached. Lose all your lives, and you must start over at level 0, where the same scaly blaster-bait is waiting.

The big treat comes when you top the highest score on the board. A drawing program appears at the game's end, and you draw your signature with the mouse. I wish this kind of creativity had gone into better puzzles for the game. That's what got to me. I like games where I have to think some—even arcade games. In The Plague, thinking is limited to deciding when to jump and blast.



Even with big targets, you need good aim.

Some of the graphics, such as a spring-driven metallic snake, are nifty looking. Your character and the monsters are large (about one-third the screen's height), and the animation and scrolling are smooth. These are technical feats, however, and don't make the game more fun, just better looking.

While The Plague kept me interested enough not to quit in disgust, and I worked my way up the levels, it wasn't good enough that I'd tell my friends to buy it. *($39.95, InnerPrise Software Inc., 128 Cockeysville Rd., Hunt Valley, MD 21030, 301/785-2266. Joystick required.)*

Might and Magic II: Gates to Another World

By Patrick Quaid

MIGHT AND MAGIC II reminds me of adventure games from the early days of personal computers, for to be honest, it's basically the same. Modern role-playing games sport realistic graphics, digitized sounds, and complex character interaction. Might and Magic II has none of that. It still has random groups of monsters wandering through dungeons, ready to engage your party in a life or death struggle for no apparent reason. When you've mowed them down, their corpses transform into a treasure chest.

At the outset, you can define a total of about 24 characters, of which six can go adventuring at a time. Character statistics and combat are based on Dungeons and Dragons, including such distinctive qualities as alignment and armor class. Available character types include knights, barbarians, and paladins for muscle; clerics and sorcerers for magic; and archers, robbers, and ninja for general skullduggery. You also have the familiar race and gender choices to go along with seven physical attributes.

Your goal is, naturally, to save your world from chaos and evil magic. During the early stages, you wander around gathering experience, skills, and magical equipment so you can effectively deal with the dangerous wilderness and dungeons. Later you might find yourself exploring the four elemental planes or even going back in time. (Keep your eye on the fold-out map.) The game is based on a jumble of mythologies and traditions that could place your European paladin in a battle with a Greek winged horse using a Japanese naginata.

The main display is a 3-D view from the party's perspective. Because it is only four squares deep, however, you frequently can't even see the opposite wall of a large room. ►

From p. 110
earthquake shakes an empty SimCity map, does anyone hear it?

• You can obtain enhanced characters in Drakkhen (Draconian, $59.95) by typing in "314159927" as the first character name and then type "supervisor" as the next one. When play starts, hit Control and go scale those dragons.

• You can make a lot of money with little experience and great benefits in Bard's Tale (Electronic Arts, $19.95). Pool your gold, remove a player from your roster and then bring him back. Repeat the procedure for the other members of your party. Turn off the computer. When you resume play, you'll find that each member has the amount of gold the full party had before you turned sleazy.

• Type "freeride" at the outset of Ikari Warriors (Elite, $39.95), and that's virtually what you'll get.

• Type "crash" as your name on the high-score table for Thunderblade (Mindscape, $49.95), and the Help key will take you through the levels.

• A nice one, because it facilitates play while not taking away all the challenge: The word "Pooky" entered in the high-score table for Rick Dangerous (Medalist, $34.95) will permit you to continue play at the level on which you died.

• There's a slew of codewords for Test Drive II (Accolade, $44.95). "Aerf" speeds your car up when accelerating and slows it down when braking, and adds an extra life, as well. Moreover, "gass" and "gasst" will warp you to the next gas station.

• Both of Readysoft's animated extravaganzas, Dragon's Lair ($59.95) and Space Ace ($59.95), have a demo mode that just happens to show the proper way through each screen. For Dragon's Lair, press the Escape, r, /, l, n, and 7 keys all at the same time, and use your nose to hit the firebutton. For Space Ace, the demo is activated by typing "Dodemodexter."

• This one's more of an "easy" mode. Pause play in Carrier Command (Med-
Continued on p. 120

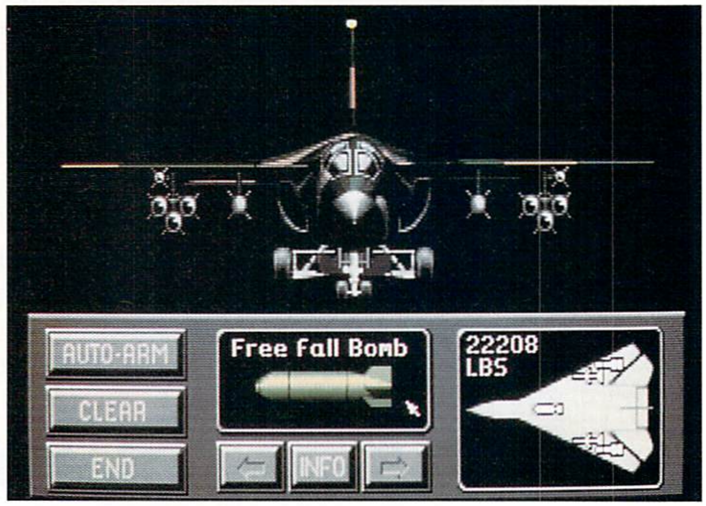
In this case, you see through to the blue sky in the background, so walls and doors appear to materialize out of thin air as you approach them.

Despite its faults, Might and Magic II has a certain primitive appeal. It's refreshing, after all, to slaughter countless monsters without a shred of guilt. The puzzles are not overly difficult, so if you save often, you won't be stuck for long. If you are in the mood for an adventure that won't overtax you, Might and Magic II could be your game. *($59.95, New World Computing Inc., distributed by Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171. No special requirements.)*

STRIKE ACES

By John Ryan

EVERY YEAR, AIRCRAFT from all over the world gather to compete for the coveted Curtis LeMay trophy in a bombing and navigation competition held by the Strategic Air Command. Strike Aces enters you in the hunt, sending you on an exacting series of missions over the badlands of Wyoming, Montana, and the Dakotas at the controls of the F15E Strike Eagle, the F-4E Phantom, the F-111F Ardvark (of Libyan fame), the Tornado IDS, the Swedish AJ37 Viggen or the MIG-27 Flogger-D.



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You must accomplish each of the 16 missions in sequence before you may advance to the next stage of competition. All missions involve bombing targets that range from small terrorist sites to airfields and bridges. Mission preparation requires careful planning: You receive a briefing on the mission, reconnoiter the target site, and survey your route to the target area. There is a large selection of weapons, but how many you can carry depends on the type of aircraft you chose.

Takeoff, landing, and flying the aircraft are very easy compared to other games of this ilk, although the aircraft's handling does depend on the model you select. Once you're in the air, the competition begins, and you must navigate to ►

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the selected target area, dodge interceptors and surface-to-air missiles, perform in-flight refueling (if necessary), and then return to base and land on the designated runway.

The cockpit contains the normal assortment of instruments and controls, and a bevy of options allow you to look in any direction. Most of the graphics are nicely done, though the screen updates are not blazingly fast. You can speed up the graphics by opting for less of the detail, which, after several games, becomes secondary to accomplishing the missions. Some of these (refueling, for example) are so difficult that frustration can easily set in. But this is a minor annoyance, considering that Strike Aces cannot be installed on a hard drive, has two types of copy protection, and does not recognize a second floppy drive.

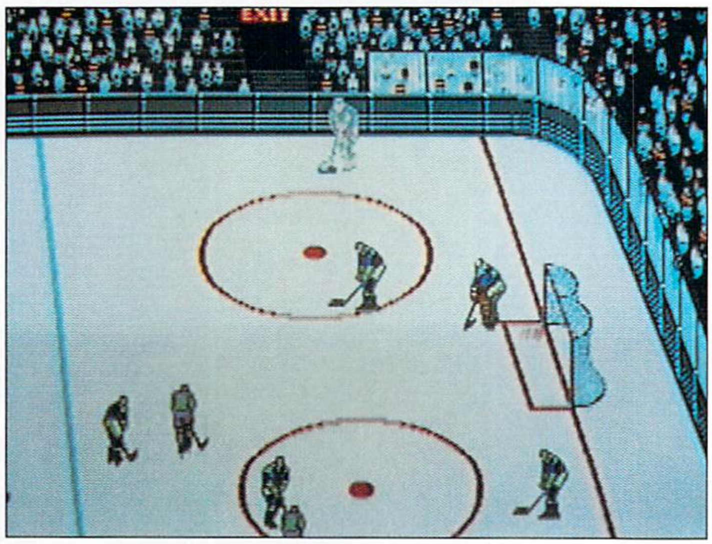
These grievences aside, Strike Aces is an above-average combat/flight simulator and mildly addictive—if you have the perseverance to hone the needed flying skills. *($49.95, Accolade, 550 S. Winchester Blvd., Suite 200, San Jose, CA 95128, 800/245-7744. No special requirements.)*

Blades of Steel

By Graham Kinsey

A PORT FROM the Nintendo version, Blades of Steel is a hockey game that emphasizes simple arcade action and little else. You compete against a friend or the computer in exhibition games or a rudimentary tournament. (The computer opponents differ only as to jersey color.)

On the ice, you control one player at a time; control switches when you pass the puck or request another player. You control the goalie only when he is in view. Because about one-third of the ice is in view at any one time, you can score far too easily by shooting the puck from one end of the ice to the other. Shots from the blue line, however, are useless, because the puck, rarely rising above the ice, slowly slides toward the waiting goalie. ►



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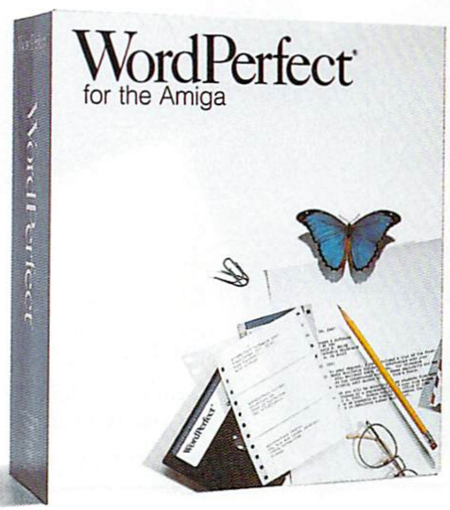
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Checking is an integral part of the game, and fights do break out. The simple, yet effective, fighting system in Blades of Steel is arguably the best part of the game. Of course, it will get someone thrown in the penalty box. Occasionally, the game will reward you with a penalty shot, as well.

The only noticeable deviation from NHL play is the overtime segment. Following the international hockey rules, it is similar to an overtime shootout in soccer. Because overtime occurs so infrequently, you never have enough time to practice it, giving the computer a huge advantage.

The graphics, sound effects, and flexibility of Blades of Steel are mediocre. It also doesn't help that the game is copy-protected as to both disk and manual, and will not work on accelerated Amigas or a hard drive. It has problems with the Super Agnus chip. Unless you're looking for a very simple hockey game, skate on by. *($44.95, Konami Inc., 900 Deerfield Parkway, Buffalo Grove, IL 60089. 708/215-5111. Joystick required.)*

From p. 114

alist, $44.95) and type "The best is yet to be." Press the + key on the keypad. Your planes and amphibious vehicles are now invulnerable to enemy fire. (Don't go crashing 'em, though.)

• Hitting CONTROL-X in Falcon (Spectrum Holobyte, $49.95) has the very interesting property of re-arming all your weapons.

• There seems to be an extra world in Populous (Electronic Arts, $49.95). It's called "KILLUSPAL." Thanks. Don't mind if I do.

• When the title screen comes up for Better Dead Than Alien (Discovery, $34.95), type "CHAMP". Now you can spruce up your weapons: F1 gives you scatterbolts; F2, multiple fire; F3, auto-repeat; F4, armor missiles; and F5 and F6, stun and neutron bombs, respectively. F7 clones your ship; F8 gives you a shield; F9 skips levels; and F10 gives you extra power.

Next month, we'll do it the hard way again. Merry Christmas, and don't go into any dungeons I wouldn't.

COMPANIES MENTIONED:

Accolade, 550 S. Winchester Blvd., Suite 200, San Jose, CA 95128, 800/245-7744.

Discovery Software Int., 163 Conduit St., Annapolis, MD 21401, 301/268-9877.

Draconian, distributed by Data East, 1850 Little Orchard St., San Jose, CA 95125, 408/286-7074.

Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404, 415/571-7171.

Elite Systems Ltd., Eastern Ave., Lichfield, Staffs WS13 6RX, England, (0543) 414188.

Maxis Software, 1042 Country Club Dr., Suite C, Moraga, CA 94556, 415/376-6434.

Medalist International, 180 Lakefront Dr., Hunt Valley, MD 21030, 301/771-1151.

Mindscape, 3444 Dundee Rd., Northbrook, IL 60062, 708/480-1948.

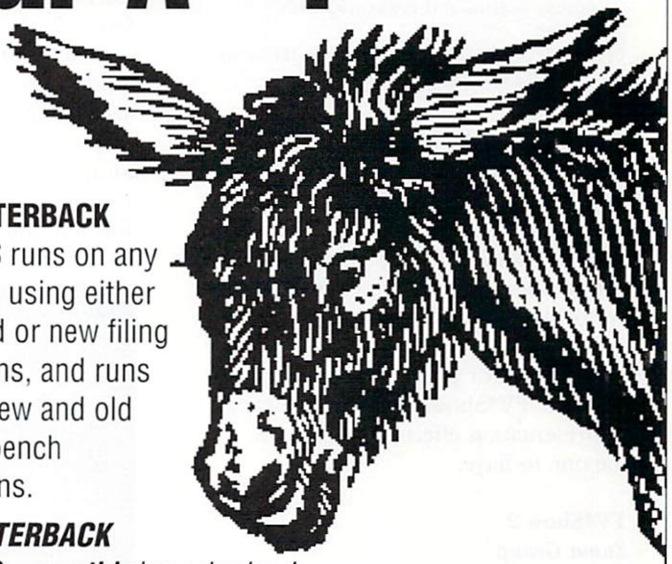
Psygnosis, 17 St. Mary's Court, Brookline, MA 02146, 617/731-3553.

Readysoft, 30 Wertheim Court, Unit #2, Richmond Hill, Ont., Canada L4B 1B9, 416/731-4175.

Spectrum Holobyte, 2061 Challenger Dr., Alameda, CA 94501, 415/522-3584. ■

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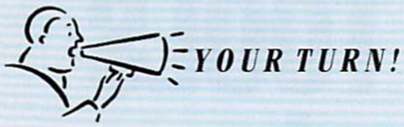
Other useful products from Central Coast Software:

Mac-2-Dos for transferring Macintosh files to and from the Amiga.

Dos-2-Dos for transferring MS-DOS/Atari files to and from the Amiga.

From p. 30
and capabilities by sacrificing dollars and ease of use. Is that a criticism of TV* Show? Not at all. It's simply a fact of life.

TV*Show succeeds in its professional ambitions where Performer falls short. Yes, it takes longer to learn, but its extensive manual (well over 100 pages,



TV*Show 2 is the only program I know of that lets you sequence a slide show by going forward with the right mouse button and backward with the left.

Geoffrey Williams

with a thorough, 74-page tutorial, complete reference section, and index) makes the process relatively easy and fun, if not fast.

If you need a display program for casual use, and effects are not critical, Elan Performer packs as much punch as you are likely to need. But if you anticipate business use or public display of graphics, then TV*Show, with its wide range of presentation effects and controls, is the one to have.

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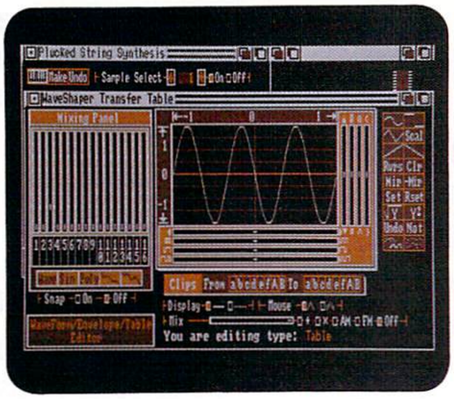
Patch me through so I can mix it up!

By Michael Hanish

IN THE BEGINNING, synthesizers were composed of hardware modules connected by patch cords. One module generated sound, then passed the signal to the other modules, which processed and mixed it along a path. The results depended upon which modules affected the signal, and at which points along the way. Synthia II, a scaled-down version of Synthia Professional (The Other Guys), emulates these modules through its software control of Amiga's internal oscillators, presenting each tone generator and effects box in a separate window.

The program's synthesizer, effects, and sampler windows all open onto the Workbench, which provides stability when multitasking with other programs. The synthesizers are the sound sources, and are similar to the sine- and square-wave generators of old. Eight kinds of synthesis are available: subtractive, additive, pseudo-additive, plucked string, FM/PM, interpolation, drum, and noise drum. Each is optimized for creating a particular kind of sound.

Additive, for example, allows you to stack up any combination of waveform harmonics; it is especially useful for creating certain woodwind-instrument sounds. The Interpolation Synthesis window lets you change up to 32 waveforms



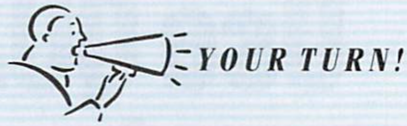
The waveform editor window.

from one to another over time. Each window contains a multitude of specific yet similar gadgets and options which, though dizzying at first glance, are presented logically.

From each synthesis window, you control such sound-creation parameters as waveform, envelope, modulation, mix levels, sample rate, number of samples, and looping. After you set the options, click on the Make button, wait for the program to synthesize the sample, and then try it out, using either your Amiga keyboard or a MIDI instrument.

WINDOWS TO THE WORLD

Once you have established a basic sound, there are still more possibilities. Each item on the Effects menu opens a separate window for such things as amplitude, ring or angle modulation, chorus, pitch shift, phase/flange, graphic equalization, distortion, filter, and echo/reverb. You can apply effects in any order you wish, but only one at a time. The win-



Synthia II adheres more closely to the Amiga user interface than did the original Synthia. Menus now predominate, but lost to us are other features, including the ability to sketch across the harmonics sliders.

The Load and Save requester (which serves both purposes, sensibly) is easy to use in navigating as long as your drives are entitled df0:, dh0:, and so on. When the requester opens a directory, it alphabetizes the files before allowing you any control. With 200 instrument files, this can take almost 10 seconds!

Synthia II cannot load sounds created in Synthia! Also, some samples sound a noticeable click or snap as you trigger them.

The Keyboard window of Synthia II lacks the enjoyable button marked "waveform" that the original offered. This allowed you to tailor a fundamental waveform and hear it right away. I do appreciate the new ability to save window environments, although this feature does have limits.

Joel B. Couch
Arlington, MA

dows are set up clearly and are analogous to the hardware they represent. The Graphic Equalizer module, for example, is equipped with virtual sliders for each frequency band that you click and drag to the required cut or boost level. The Undo option takes you back to the instrument sound before processing, which is very helpful for comparing pre- and post-processing.

The range of effects is adequate for just about any task. I especially appreciate the Echo/Reverb window, with its 24 preset effects, level and mix controls, gate, and filters. Adding small amounts of reverb to the instrument gives it more body and presence. It is important to remember that, while the effects algorithms sound quite clean and realistic,

the program is still limited to the relatively rough sound of eight-bit oscillators, and subtle effects work best.

The sample menu offers an editor, a Resample window, and the Spare Sound module. The Sample editor, while adequate, is clumsy. I much prefer the capabilities of a dedicated sample editor such as AudioMaster (Aegis/Oxxi), and because Synthia II multitasks so politely, I can run both at the same time. In the Resample window, you can preserve an instrument's sound while you change its sample rate to conserve memory or make the sample compatible with another program. The Spare Sound module allows for simple combining and mixing of samples and parts within instruments.

She's Flexible

The ability to recognize a number of different sample formats adds to Synthia II's flexibility. The program supports standard IFF-8SVX, Sonix (Aegis/Oxxi), SoundScape (Mimetics), AudioIFF, (which is used in Synthia Professional for 16-bit transfer to dedicated samplers), and Sound Designer (a Macintosh format). Each has its uses and limitations, and each is clearly explained in the manual.

Creating an instrument from scratch or even refining an existing one is a fussy, time-consuming process. While the program cannot help you avoid the trial-and-error route, it provides several ways to concentrate and consolidate your efforts. Another very nice feature is the ability to save window environments once you have perfected them. This allows you to duplicate precise settings and mixes of effects later on.

Synthia II's manual is very clear and thorough. It describes each module and is reinforced by on-disk examples. Some tutorials would be helpful in understanding the methodology behind making instruments, and an expanded and more detailed index would improve it even further.

Synthia II functions smoothly, although sometimes slowly. I found myself wishing at times that it would open onto a custom screen so I could control the appearance of the work space. If your interest is in designing or customizing instruments or sounds, look into Synthia II, but don't make any appointments for a while. I send The Other Guys a long, looping sample of applause for designing a polished, well-tuned piece of software.

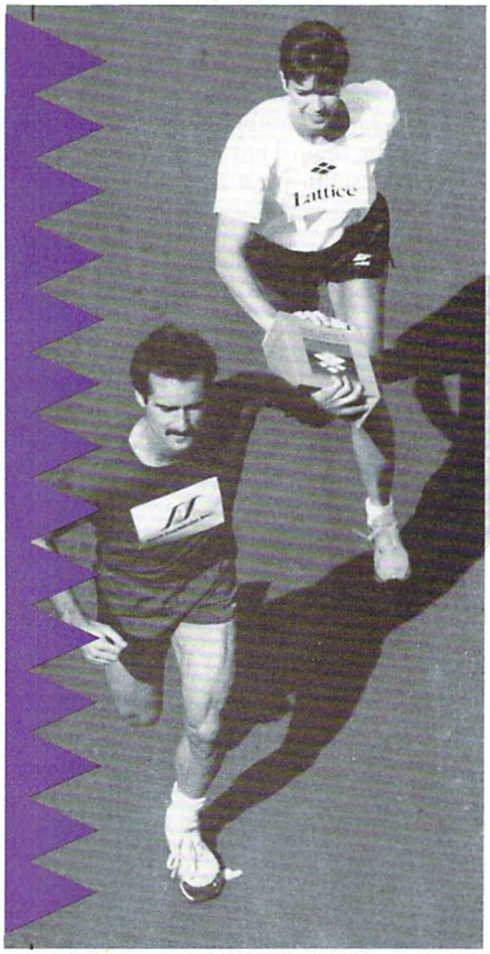
Synthia II
The Other Guys
PO Box H
Logan UT 84321
801/753-7620
800/942-9402
$124.95
No special requirements.

DEB 2000

Takes a little space, makes a slot more

By Lou Wallace

DESKTOP PUBLISHERS, ENGINEERS, and others who find it necessary to work ►



in interlaced mode have long regarded MicroWay's flickerFixer as one of the best and most useful products available for A2000. When used with a multisync monitor, this board banishes the annoying flicker of the interlaced screen display, and as a result, relieves eyestrain. Until now, however, using the flickerFixer posed a big problem for videophiles, for internal video hardware such as genlocks must use the Amiga's video slot—the same slot the flickerFixer occupies. Now MicroWay has introduced a solution to the slot wars—DEB (Denise Extension Board) 2000.

DEB 2000 consists of a tiny device that fits between the Amiga's motherboard and Denise chip, and a slot to hold the flickerFixer onto the motherboard. A small cable extends signals that normally terminate at the video slot to the slot that DEB adds. This frees up the video slot, yet allows flickerFixer users to maintain the same high quality of screen

YOUR TURN!

I have a fully loaded A2500: With the Bridgeboard, every slot is filled. This presented a challenge for installing the DEB 2000. I had to tilt it slightly and wedge it between two half-size AT boards, and then cut away a section of the shield. Also, it is almost impossible to adjust the flickerFixer with DEB installed this way.

I learned that although it is fine to have a genlock connected while adjusting the flickerFixer, you should not try to make adjustments while video is going into the genlock. If video is going in, the overall image softens. This effect is not MicroWay's fault; it's inherent in the way the system works, but I spent a lot of time chasing my tail because of it.

Once installed, the system works as well as the flickerFixer does by itself. It is a necessary item for me, and I'm happy with it. It works fine with a genlock. The people at MicroWay are very knowledgeable and accommodating.

Larry White
New York, NY

image they have become accustomed to.

To install DEB, you must first remove just about everything in the A2000, including floppy and hard drives, the power supply, and all expansion cards. Then you must carefully remove the Denise chip from the motherboard, plug it onto the small DEB 2000 piggyback board, and install the DEB board in the motherboard's Denise slot.

The next step is to install the slot supplied for the flickerFixer onto the other end of the Amiga's motherboard, next to the PC slots. This involves removing a couple of screws from the motherboard and mounting the DEB slot in their place. Using the ribbon cable, you then connect this slot to the piggyback board in the Denise slot. Finally, you reassemble everything, placing the flickerFixer in the DEB slot.

Fine Tuning . . . Very Carefully

Once the system is installed, it's necessary to adjust the flickerFixer's phasing in order to get a correct display. This involves turning a potentiometer on the flickerFixer board while the Amiga's

power is switched on. In some ways this is the toughest part of the installation, and you have to be very careful not to touch anything that might deliver a shock, or to drop your adjustment tool, which might damage the computer.

When my system was reassembled and the flickerFixer calibrated, everything worked just fine. I installed a Video Toaster (NewTek) in the video slot and had no problems using either it or the flickerFixer.

For a while, I was concerned that the DEB 2000 slot might interfere with Bridgeboard owners using the last PC slot. After close inspection, however, it appears that PC boards will fit snugly (unless they are very wide), but will work fine.

Genlock owners should have no problems using the video slot. Unless your genlock is designed to display on a multisync monitor, however, you will need a standard Amiga monitor for the genlocked video in addition to the multisync monitor for the flickerFixer display.

DEB 2000 is a must-have for flickerFixer owners who want to use hardware designed for the A2000's video slot. The price is quite reasonable, the installation is fairly straightforward, and, most important, it works!

DEB 2000
MicroWay
PO Box 79
Kingston, MA 02364
508/746-7341
$75
No special requirements.

IR Remote Controller

Seeing red

By Gene Brawn

WITH MULTIMEDIA MOVING out of the rarefied air of academia and into the real world, would-be producers are applauding the arrival of software that turns their Amigas into interactive powerhouses. Both AmigaVision (Commodore) and VIVA (MichTron), for example, support laser-disc players.

Dedicated computer-controlled laser-disc players are way out of reach of the average consumer. As a result, multimedia mavens are turning covetous eyes to the couch potato's best friend—the infrared remote control. "If only I could use my Amiga to control my VCR and laser-disc player . . . ," they muse. Well, you can do so with the IR Remote (for the A2000 and A500 only) from Edu-Vid, but you will have to "roll your own" software to do it.

From the Guerrilla's Garage

My first glimpse of the IR Remote swept me back to the days of the "garage guerrilla," whose home-brewed hardware powered the first growth of the personal computer. That era is long gone, and, rather than being nostalgic, I was disappointed with the box's appearance: The Amiga deserves better-looking peripherals than this.

The heart of IR Remote is a small, programmable remote control. VCRs, compact-disc players, and laser-disc players are potential candidates for interac- ►

tive command by this infrared impersonator. Simply "teach" the IR Remote your devices's key codes, and connect it to your Amiga's parallel port. Then, point the IR Remote at the slaved machine and take control!

The IR Remote can memorize the commands of four different devices. Regrettably, however, each set of stored functions must be selected manually by flipping a switch on the IR Remote's keypad. A software switch would make this feature useful for those of us trapped in the real world. Curious fingers are another potential problem; it is ridiculously easy to change or erase the key codes stored in the remote's memory. A cover over the keypad would discourage unauthorized user experimentation.

The package includes an off-the-shelf Universal Remote Control (Radio Shack catalog number 15-1902) modified to connect to a custom circuit board. Both components are housed in a plain, gray-metal experimentor's box. A too-short ribbon cable from the back of the box connects to your Amiga's parallel port. Four cables are supplied for connecting the RCA jacks on the side of the case to a VCR's audio and video input/output jacks. A fifth RCA jack provides connection to any multiresolution monitor whose display mode you can control from a remote location (EDU-VID recommends the Sony PVM 1390).



YOUR TURN!

I have not gotten very familiar with the IR Controller yet. I plan to use it a little differently than the developer intended. As I am an amateur user, the package seems a little over my head; it looks like it could be very helpful for people who know what they're doing, though.

Alan J. Cook
Temecula, CA

The only trouble I had was with the cable that connects the unit to the Amiga. Ideally, the IR Remote should face the device that it is to control. Unfortunately, however, the cable is barely long enough to allow the box to sit on top of an A2000, and too short to let you orient it toward equipment on the same table or shelf. I did not appreciate having to alter my hardware setup just to accommodate this device, although once I had everything arranged I had no more problems. The hardware is well constructed and performed flawlessly with my video equipment.

THE KITCHEN SINK

Emulating a hand-held remote control is but one of IR Remote's many functions. For example, using the supplied software, you can record touch tones (the beeps you hear when you dial your push-button telephone) at the beginning and end of each videotaped sequence in your presentation. You then command the IR Remote to scan the tape in search of the tone combination that identifies a desired sequence. Finally, you play the video until the ending tone is decoded.

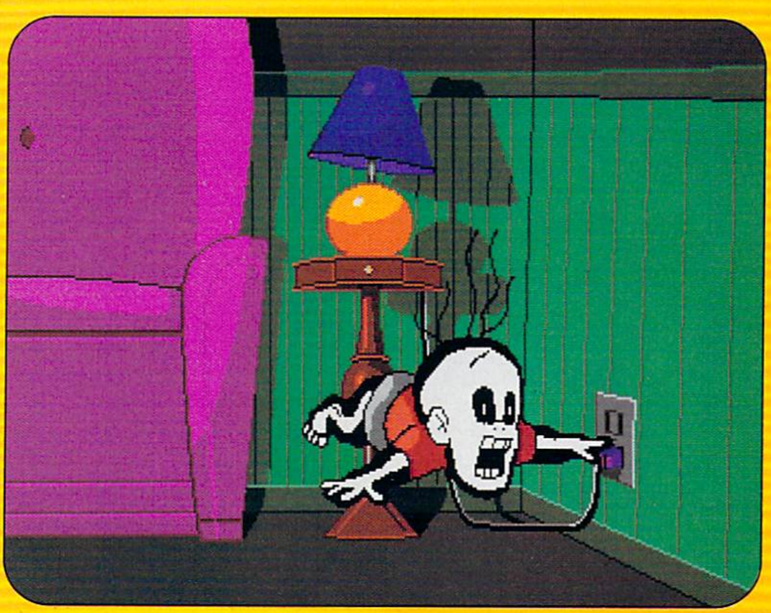
Similarly, you could add a code to the ►

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***All prizes donated by their respective manufacturers.**

videotape to cause your Amiga and genlock to superimpose a control panel over the video. You could even use touch-tone codes to program your home VCR in Albuquerque from a phone booth in Berlin. The IR Remote also offers full ARexx support, complete with example programs illustrating its use with DeluxeVideo III (Electronic Arts) and MicroFiche Filer (Software Visions).

To control a play-only device such as a laser-disc player, you use IR Remote's video-detect circuit, which simply determines whether the device is actually displaying a picture. If the sequence you want to display is preceded by black (i.e., no video signal), you would use video detect to sense the point where the picture begins. Then, using your Amiga to keep track of the elapsed time, notify the IR Remote to stop the VCR when the time limit expires.

DETAILS, DETAILS

The manual is, in a word, dreadful. Most of its pages are dedicated to explaining the on-disk programming examples included with the hardware, but, regrettably, none of these programs are reproduced in the manual. Woe be unto him who misplaces his IR Remote software!

More than 20 sample programs are included on disk. Alas, none is a complete application. Instead, the programmer opted for the "toolkit" approach and created BASIC programs demonstrating selected features of the IR Remote. If you can read BASIC, these programs do a better job of explaining the IR Remote than the documentation.

On the hardware side, if you study the manual and software long enough you may be able to determine the functions of the various pins in the parallel connector. The nine dip switches on the end of the box, however, remain a complete mystery to me. A diagram of both would be most welcome.

Both the hardware and software perform as advertised, and the developer provides a money-back guarantee, but there's no denying that the IR Remote is a hacker's dream. Incomplete and unclear documentation, unexplained switches, lightly commented software, and the I-built-it-myself design all provide a fertile field for discovery. If you are a software explorer who craves a challenge, I highly recommend the IR Remote Controller.

IR Remote Controller
Edu-Vid Research
PO Box 149
Pembina, ND 58271
204/668-2062
$199.95
No special requirements.

SAS/C 5.10 COMPILER FOR AMIGADOS

If icon program, so can you

By David T. McClellan

A FEW MONTHS ago, Lattice sent out a free update disk, numbered 5.04, for the Lattice C compiler. Now SAS, Lattice's parent company, has taken over the product and released a much larger set of improvements. Version 5.10, a $40 upgrade, includes features that make it easy to edit, compile, link, and test from the Workbench, so you are not stuck working from the CLI. The six-disk set also offers faster tools (SAS has sped up the blink linker, for instance), AmigaDOS 2.0 include files, some 2.0-style tools, and ARexx support, among other additions. The package is now called SAS/C, although the binders still carry the Lattice logo.

TAKE IT FROM THE BENCH

The most notable feature of this release is its support of Workbench. After you have installed the system and set up the usual Lattice ASSIGN commands, you can run the whole thing from Workbench. You can edit, compile, link, test, and debug, all by double-clicking icons.

Each program you work on lives in its own project drawer (directory). To create a new drawer, just drag a copy of the Lattice Starter_Project drawer onto your disk and rename it as you wish; or, copy the icons into an existing drawer via the CLI or by running SASCSetup program, and then go back to the Workbench. Once you have set up the drawer, open it and double-click the LSE (Lattice Screen Editor) icon. In just a moment, the LSE will open into a Workbench window. ►

LSE can load and save files and keep multiple files open simultaneously. It lets you move the cursor and scroll via the mouse or keyboard. LSE is not quite as rich as some other editors—MicroEmacs, for instance—and you must be in 80-column mode to use it, but it can perform all the cut-and-paste, block-manipulation, search, and macro functions you need. It can also invoke the compiler and, when the compilation process is finished, walk you through errors. You can add a Lattice icon onto each of your C or ASM source files, so that simply double-clicking on an icon opens LSE with the appropriate file. Handy.

Playing the Links

I also like the addition of ARexx support to LSE, for with it, you can build some smart macros. Five LSE function-key combinations are set aside for invoking ARexx macros: Alt-F6 through Alt-F9 look for macro files named lse_rexx_f6 through lse_rexx_f9, respectively, while Alt-F10 prompts you to enter a name.

Several important pieces of information are left out of the manuals; I found the macro-file names that correspond to the function-key combinations only by perusing the Read.ME file on Disk 1. This file also details a number of other features, including use of the SASCSetup program, which sets up your project directories by moving in some standard icons and by tacking source-code icons (with which to call LSE) onto each source file.

You can also now start LMK, Lattice's Make utility, and CPR, the source-level debugger, from Workbench. When you do, LMK uses an existing Makefile if one is in the directory. If no such Makefile exists, LMK builds one, compiling the .C and .ASM in the directory and linking them. You can set compiler and linker options for LMK (and LSE, if you compile there) to use via a Preferences-like Options editor. Both the LMK and CPR tools work fine and almost completely save you from having to go through the CLI. The one thing I did have to do via CLI was to add the directory containing the compiler, linker, and so on, to my path in the startup-sequence file. (I then reloaded Workbench to teach it the new path.)

YOUR TURN!

The SAS 5.10 manual update is terrible. The new pages in one section are inserted behind the index, and the contents are not included in the index. I do, however, like the fact that the compiler lets you choose between 1.3 and 2.0 header files.

Donald Hunter
Nashville, TN

Other 5.10 enhancements include the compiler's ability to align variables and structs on specified n-byte boundaries. The compiler can also generate function prototypes with typedef names for parameters and return values, and automatically promote "near" data to "far" if you overflow the "near" area. It also now has larger #pragma libcall limits (for registerized calls to Kernel functions) and larger #define macro-expansion limits that you can set.

One particularly nice addition is struct equivalencing. If you have two structs, the larger of which differs from the shorter one only by adding fields to its end (e.g., the Kernel "Message" and "IntuiMessage" structs), the compiler considers the longer one equivalent to the short one for function calls. This saves you a lot of warning messages and type-casting. The compiler also has some new warning messages for things like nested comments and #if/#ifdef without #endifs to help you track down typographical errors.

Strides in Running

The run-time environment is also a bit improved. SAS added a feature that has long been available on the MS-DOS version of the compiler: a global variable named _stack. If you initialize this variable in your program to some numeric value, the compiler will guarantee the stack to be at least that large. This ►

means that you need not use the CLI STACK command when testing heavily recursive programs. SAS has also added some directory i/o routines a la Unix (opendir, readdir, seekdir, and more) for those who need to parse AmigaDOS directories.

This release comes with include files for both AmigaDOS 1.3 and 2.0—on separate disks. The manual's User's Guide states that one disk contains the compressed include files and libraries. Not so. Three disks do this job: one holds the libraries, the second provides the uncompressed 1.3 include files, and a third contains the uncompressed 2.0 include files. Both include-file disks offer a script called Compact, which compresses the include files into your Include directory when you install the product. I ran the script directly after looking at it; all I had to do was to assign fd: to the disk's Compiler_Headers directory, assign td: to my CompactH include directory, and execute it.

Other than things not mentioned in the manuals (or, as in the latter case, in the Read.ME file), I found only one minor glitch, which the documentation and the Options program share. While the -ck option of the LC (Lattice Compiler) command is supposed to enable the "near," "far," and "chip" keywords, it disables them instead. Because of this, the compiler gave funky error messages ("semicolon expected") on lines in one of my programs that uses the "chip" keyword to initialize some gadget imagery. If you want to use these extensions, you must either remember not to check the box labeled "Allow chip/near/far in the Options program, or to use the -ck option with the compiler in the CLI.

The rest of the books appear all right; most of the changes are documented in the User's Guide section and in appendices to major sections. I recommend you print the Read.ME file and keep it with the manuals.

Is 5.10 an upgrade worth paying for? I think so. I've gotten used to hopping back and forth between the CLI and the Workbench to build and test programs, but I prefer not to. SAS has made a good start here in freeing us from such jumping. It's about time the Workbench became sturdy enough to work on.

YOUR TURN!

Version 5.10 of SAS/C should make things somewhat smoother for novices, because it supports the Workbench. You can get to all stages of development from the Workbench, so you don't have to know how to compile in order to compile, for instance. I am so accustomed to using the Shell, however, that I will not really use this feature.

The SAS/C Options program is very nice; it saves you from having to drag out the manual for reference. Lattice's technical support has always been stellar, and SAS is continuing in this vein. When SAS first took over the compiler, the company considered using a 900 number for tech support, but got so many complaints that it decided not to.

John Thywissen
Houston, TX

SAS/C 5.10 Compiler for AmigaDOS
SAS Institute Inc.
SAS Campus Dr.
Cary, NC 27513
919/677-8000
$300
No special requirements.

AutoPrompt

Roll 'Em

Read once, scroll often

By Geoffrey Williams

LONG A FIXTURE in politics, teleprompters are used frequently in video production and even in large business meetings. Instead of being stuck behind a podium with his notes, the speaker can read directly off of the teleprompter. A small, angled piece of glass reflects an image of scrolling text from a television monitor. The glass can either be mounted directly on a camera (totally invisible to the camera lens) or on a stand that is unobtrusive. The audience can see right through the transparent glass. Now, at last, teleprompter software is available for the Amiga: AutoPrompt from DigiWorks and Roll 'Em from De- ►

signing Minds have arrived.

AutoPrompt

To start AutoPrompt, double-click on the icon displaying the screen resolution you want to use. Choose carefully: You cannot change the resolution after loading. Once in the Edit mode, you can load or type in text. The simple word processor lets you search and replace words and place markers in the text.

For the next step, you must enter Prompt mode. AutoPrompt uses a maximum of four colors—one each for the text, speed bar, message area, and background. I wish it supported multiple text colors so I could differentiate between lines for two different speakers or flag instructions that are not supposed to be read aloud. Although you cannot highlight, underline, or italicize text, you can load any font up to 60 pixels high from any drawer. The program provides Que, a very readable font, in three sizes. You can then save preferences that will maintain the chosen font, scroll speed, color palette, and menu-item settings.

One of the basic requirements of teleprompters is that the text be reversed so that it looks normal in the glass reflection. Some monitors let you switch between normal and reversed images, but the best solution is to have the software reverse the text for you. AutoPrompt will not do this. Instead, the manufacturer recommends opening your monitor and "reversing a connector internally."

You can control the speed and direction of the text scroll, as well as start and stop it, by using the mouse, keyboard, or joystick. I like using the joystick (up or down to set the direction, right or left to adjust the speed), but the keyboard works well for a remote operator.

The mouse control is silly: To set scroll speed, you must click on the speed bar to make the slider jump toward your pointer. If you click directly on the slider, the display pauses. If you click too many times in the slow direction and the slider moves all the way to the left, it then suddenly jumps to the other end, making the text scroll at its fastest speed.

Along the bottom is a separate window that scrolls messages horizontally (as opposed to the vertical scroll of the main text). While the main text is scrolling, you can type a message or instruction at the keyboard, and it will appear in the bottom window. You cannot insert preset messages into this bottom window, however, from within the program. A way around this is to use a utility with hot-key or function-key capabilities, such as the public-domain program Mach II.

What surprises me most about this package that it costs so much, yet provides so little. At $299 and only 20K of program code, AutoPrompt may be the most expensive program per byte in the Amiga market. While I understand that teleprompters may have a limited market and thus require a slightly higher price, the least I would expect is that the program be reasonably full-featured.

Roll 'Em

At $149, Roll 'Em is half the price of AutoPrompt. It also lacks the same two essentials that AutoPrompt does: reversible text and a method for differentiating sections of text. On the positive side, Roll 'Em does provide some important features that AutoPrompt does not. ►

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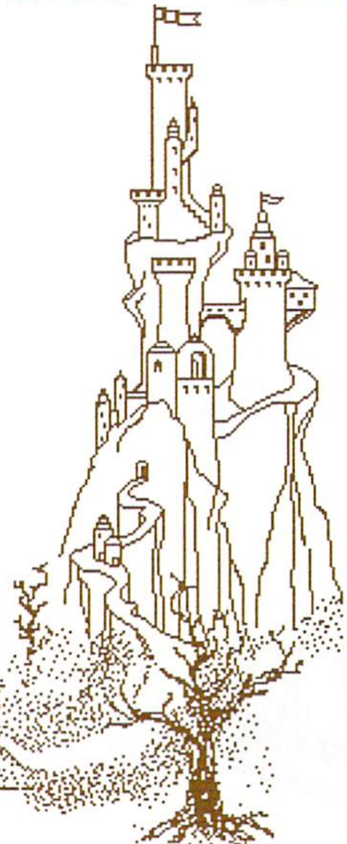
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One key aspect of a teleprompter is text clarity. Roll 'Em comes with two easy-to-read fonts, both with four sizes from 20 to 50 pixels high. You can also import any Amiga font. To make the characters even more legible, Roll 'Em lets you add shadows or outlines. You can also increase and decrease the size of the shadow, but at the cost of scrolling speed.

Having no built-in word processor, Roll 'Em requires you to enter your text in a text editor or word processor and save it as an ASCII file with a numbered file name in a special directory. Roll 'Em looks in this directory and loads the files in numerical order. For random access, use the Goto command: Pressing the Amiga-G key combination and typing a file number jumps to that text. If you break up your text into logical topics or by speaker, you can quickly bring up what you need using this feature.

While there is no horizontal scroll window for the insertion of additional text, you can add text while the program is scrolling. Create your text files either in advance or on another machine and save them on a disk named Flash. To insert this text on the bottom line of the screen, press Amiga-I. When the program finishes scrolling the insertion, it returns to the point at which you interrupted the main text. Joystick speed control is easier to adjust here than in AutoPrompt, but there is no reverse-scroll option. Instead, pressing up and down on the joystick increases or decreases the delay at the end of each line.

Other nice features include an optional end-of-file marker to distinguish the different files; the ability to dynamically change the text or background color to one of the four palette choices; and instructions on how to build a foot switch. You can change all options (font, color, shadow, and so on) while the text is scrolling, and save them.

SCROLL ON BY?

If you combined the features of both these programs and added multicolor text, highlighting capabilities, text mirroring, and gliding mouse control of scrolling speed, you would have a very capable professional-quality teleprompter well worth $300. As it stands, neither one is really a professional solution, but Roll 'Em is the better value. You could, of course, save your money and retrieve the program VBHI from the public domain. While it lacks a lot of bells and whistles, it does a smooth job of scrolling text.

AutoPrompt
DigiSoft
Queensland, Australia
61-7-277-3255

Distributed in the US by:
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Roll 'Em
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Logan, UT 84321
801/752-2501
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Title Page

A new contender for the title

By John Wolfskill

WHETHER YOU ARE assembling a home-grown video or working the "hot chair" in a busy post-production house, you can add a finishing touch to your project with snappy title screens. The software tool of choice for this job is a video-titler, and one of the latest to hit the market is Eschalon Development's Title Page. This program uses a process called extrusion to create multilayered graphic objects that provide 3-D-like visual effects. The package includes a graphics editor with built-in brush, pattern, effects, and display-list editors, along with several utilities that allow you to sequence and view your finished title screens.

Installing Title Page on a hard disk is relatively simple, thanks to a thoughtfully designed install program. Just click on the install icon and follow the instructions; Title Page copies the programs to your hard drive and presents you with a blank drawing screen.

Title Page contains nine Amiga-compatible fonts and a pair of color fonts that can be used to create the text and special graphic "brushes" that make up each title screen. You can also select a rounded, or anti-aliased, font outline. Basic title screens are composed of text strings against a colored background. You can add graphics to these screens using a limited set of drawing implements, including line, ellipse, and rectangle tools.

Twisting Your Words

To create a title screen, you first select a screen background color from the Tools menu. The Set Prefs option establishes the color attributes for the text foreground, background, shadow, and light source, and lets you specify justification, depth of extrusion, and so on. Next, select a font and font style (bold, italic, or other) from the Edit menu, and enter a single line of text in the dialog box. Title Page takes a few seconds to create a new brush, which it then displays.

You can color, skew, scale, stretch, and shape your basic brush using an array of editing tools, including a special set of attributes called effects (EFX). To transform a simple brush into a more stylized one, you can load one of over 40 effects files. These files contain data to modify your current brush. Among the variations are emboss, glow, circle, outline, cross, and punch designs. Click on the Generate option to see your basic offering take on the attributes defined in the effect file you've loaded from disk.

The Title Page editor creates effects by assigning different colors and dot patterns to different layers. Title Page builds the brush from these layers, offsetting each successive one by a few pixels in a given direction (according to your Set Prefs specifications) so the edges of all layers are in view. The process, called extrusion, makes the brush appear to stretch, which usually creates a handsome three-dimensional appearance.

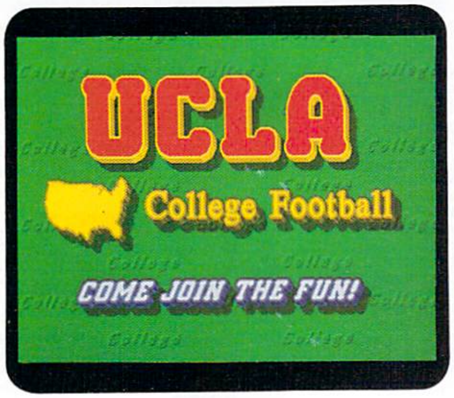
You can continue to extrude the text by compounding the results of multiple generations. Under this scheme, the pro- ►

gram adds a new copy of the effect to the current brush each time you click on the Generate option. Hence, the brush grows deeper, depending on the number of times it is regenerated. When you have produced a brush you are pleased with, you can position it and stamp it onto the screen wherever you like and as many times as you like.

CHANGES IN EFFECT

Most of the predefined effects are quite attractive and should suffice for a variety of production situations. If none strike your fancy, however, you can create your own using the Effects editor. After you define a new effect, you can use it immediately or save it to disk for later use.

I found the Effects editor somewhat cumbersome to use. The changes (colors, patterns, positioning, and such) you make to the various graphic layers of the effect are not applied to your current brush immediately, but to the sample word "HELLO" that appears in the Effects editor's work area. An effect that looks great on the sample text often looks quite different when applied to your current brush. To compound the problem, the colors you assign to the various graphic layers must be chosen from the Tools menu. This means you must close the Effects editor, choose Set Prefs to select the new color, and then



The finishing touch, by Title Page.

restart the Effects editor.

My favorite Title Page feature is the Dlist editor. Its purpose is to create attractive backdrops for your title pages by taking advantage of the the Amiga's graphics coprocessor (copper) chip. With the Dlist editor, you can define—for both the background and foreground—palette-display lists that the copper then uses to assign a different color to each raster line on the Amiga's display. This allows you, for example, to create a background with a palette composed of hundreds of colors, even when the Amiga's video is operating in two-color mode. The program's various options allow you to select coarse or fine gradation, color cycling, or rainbow effects. The visual effects of the Dlist editor are stunning.

ON DISPLAY

After your title screens are complete, you can use TPMake, Title Page's script editor, to create a script for displaying, sequencing, and manipulating the screens. TPMake offers 15 commands for producing scripts. One command lets you choose from 45 different screen transitions, including wipes, spirals, drips, slides, randoms, checkers, clocks, stretches, and slabs.

The TPPlay utility allows you to execute completed scripts. If you own the ►

ARexx authoring language (included with AmigaDOS 2.0 or available from William Hawes), you can start and run TPPlay directly from the TPMake script utility using ARexx commands. Otherwise, you must close TPMake and start TPPlay from the CLI each time you wish to test a script in progress. I'm afraid that I found this procedure both tedious and time-consuming.

Some general-purpose tools are provided to select screen modes and display sizes that are appropriate for RGB, NTSC, or PAL video monitors. Another tool is Title Page's screen-centering test pattern. A screen with standard video color bars is also available to fine-tune your video equipment for use with the program.

Transmission Trouble

Title Page's manual starts out well, but quickly slides into a mire of technical terms and concepts that are difficult to grasp. After the first chapter, which discusses the basics of using the Amiga's keyboard, and a tutorial that shows you how to create and save a simple title page, you are on your own. Although each command and menu item is explained (in what seems like an ongoing glossary of terms), the manual never steps back to show you how you use them together. Having been already familiar with many of the terms and concepts presented, I still found using the package initially frustrating. Also, while the company offers free technical support for the life of the product, the documentation does not list a telephone number.

Title Page is a competent and technically rich package that produces attractive title pages of professional caliber. The manual, however, needs a more robust tutorial to flatten the learning curve for the inexperienced Amiga user, and the inconsistent interface may keep experienced users from quickly reaching full potential. ■

Title Page
Eschalon Development
2354 Cote Ste-Catherine
Montreal, Que.
Canada H3T 1A9
604/520-1543
$199.95
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Home Front (Designing Minds)
Mega-Midget Racer (CSA)
Music-X Jr. (MicroIllusions)
PageStream 2.0 (Soft Logik)
Pro Video Post (Shereff Systems)
Sketch Master (Dakota)
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Top Form (Designing Minds)
Trax (Passport Designs)
VidControl (Integral Systems)

To comment on these, write us (Your Turn, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458) or call (800/441-4403, ext. 346) by Nov. 19, 1990.



B A C K T A L K

CANDID RESPONSES TO *AMIGAWORLD* REVIEWS

Why was a competitor—Joel Hagen, who is associated with Right Answers Group—allowed to review our product?

In his review of DigiMate III (Sept. '90, p. 77), Mr. Hagen omitted to mention that all the processes that generate animations are totally open and modifiable. In stating, "I can do this kind of animation with the public-domain program MakeAnim and a list of IFF files. Digi-Mate is more convenient, but not more powerful," he misses the point that convenience translates into time—and money—saved.

It's true that the Help feature is not fully implemented on the bootable-disk version of the program, but the Help files can easily be copied to the bootable disk.

We have one known bug, which is mentioned in the manual. It is the type of thing that you can easily avoid once you become aware of it. The chip RAM situation, however, is a well-known Amiga problem—not a bug of Digi-Mate.

Mr. Hagen criticises the fact that the screen pictured on the box does not correspond to the screen on disk or in the manual, but does not mention that the actual screen display is better than the box photo! Finally, the suggestion to wait for a "more sophisticated and better-tested version" is a stab in the back, telling potential customers to avoid a utility that costs $27 mail order—a big layout!

In failing to do its job right, *AmigaWorld* is numbed to the pain it can impart to others who struggle.

Bob Maludzinski
Mindware International

I was excited by Mindware's claims about DigiMate III as an animation product, and I reviewed it as a professional artist and animator demanding quality and power. In my opinion, DigiMate is embarrassingly weak in both those respects. I searched for ways to be kind in the review.

I do not see that my association with Right Answers Group makes me a competitor. Director 2, a language geared for interactive presentations, is in no way similar to DigiMate. It relies on using pictures, sounds, and animations created by other products. Director 2 can use animations created by DigiMate, but is not itself designed to generate or process them. Anyone using Director would find a HAM-animation generator helpful; in fact, Director sales would indirectly benefit from sales of a HAM animator.

Joel Hagen

Yakkity yak. . . *do* talk back! Send your comments on reviews to Back Talk, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458. Letters may be edited for space and clarity. ■

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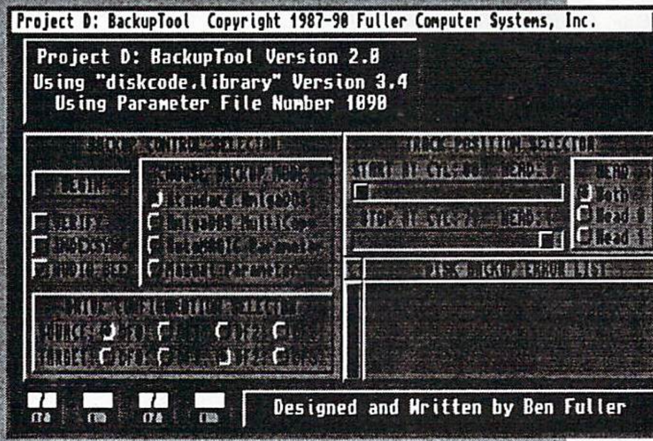
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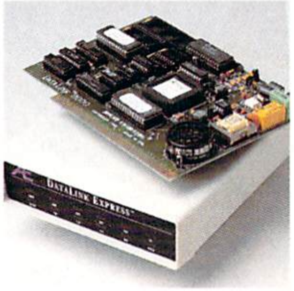
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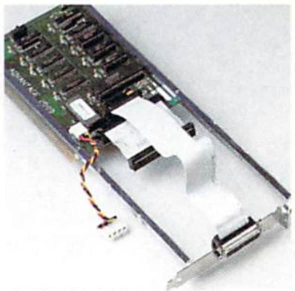
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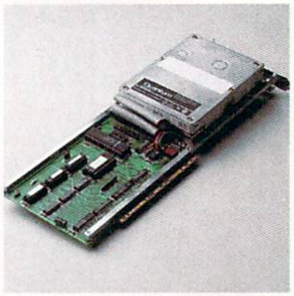




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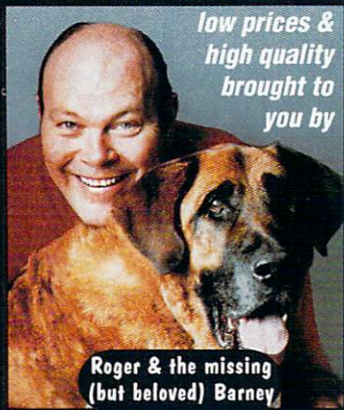
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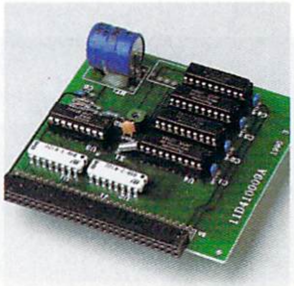
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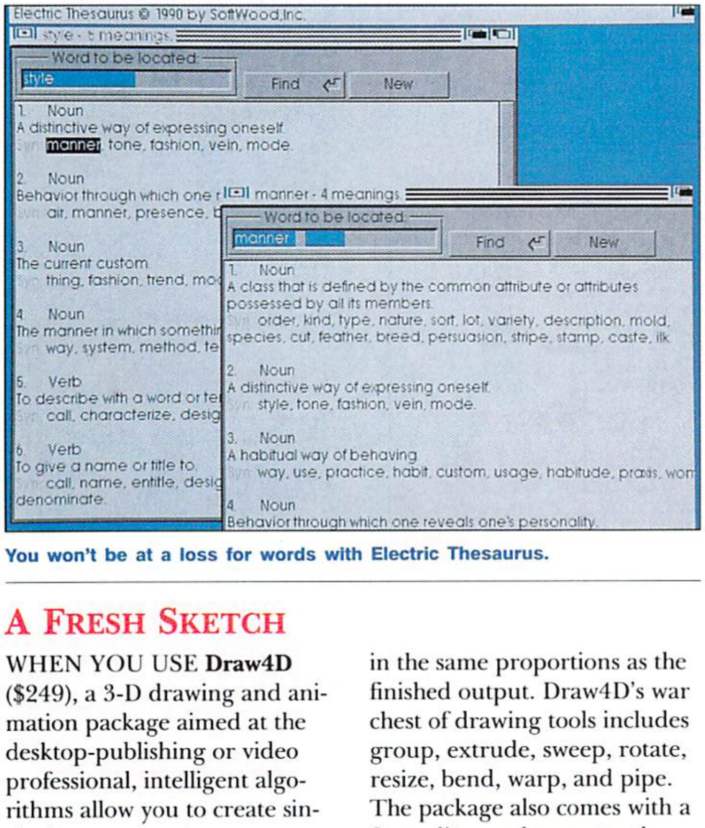
WHAT'S NEW?

Quips are flying like snow in this month's triple helping of new toys and tools.

Compiled by Janine Jackson and John Wolfskill

Paperback Writer

IS YOUR MEAGER vocabulary standing between you and a Pulitzer Prize? The ARexx-compatible **Electric Thesaurus** ($49.95) comes outfitted with a clipboard device so you can add thesaurus capabilities to your word processor. The Electric Thesaurus features over 500,000 synonyms, identifies parts of speech, and lets you choose from either frequently or less commonly used words. (SoftWood, PO Box 51209, Phoenix, AZ 85076, 800/247-8314.) *RS# 505.*



You won't be at a loss for words with Electric Thesaurus.

A Fresh Sketch

WHEN YOU USE **Draw4D** ($249), a 3-D drawing and animation package aimed at the desktop-publishing or video professional, intelligent algorithms allow you to create single-frame animation or animated sequences with a specific duration. The program presents your work on screen in the same proportions as the finished output. Draw4D's war chest of drawing tools includes group, extrude, sweep, rotate, resize, bend, warp, and pipe. The package also comes with a font editor and supports the Amiga's HAM and Overscan modes. (Adspec Programming, PO Box 13, Salem, OH 44460, 216/337-3325.) *RS# 508.*

Buck Is Back

BREAK OUT THE chocolate cake and candles. Buck Rogers, America's original space hero, has just turned sixty. Join the seasoned space adventurer in **Countdown to Doomsday**, a role-playing action game centered around life in the 25th century. Use the game's fantasy, role-playing system to navigate the galaxy, or refer to the novel, *First Power Play*, included in specially marked boxes of Countdown to Doomsday to help you get into character. (Strategic Simulations, 675 Almanor Ave., Suite 201, Sunnyvale, CA 94086, 408/737-6800.) *RS# 512.*

Store More Board

CONNECT IBM-compatible hard-disk controllers and drives to any Amiga with a **MAX-125 Autoboot Interface Adapter** (AIA, from $149.95 to $189.95). The MAX-125 provides compatibility with many 8- or 16-bit ST506/412 and ESDI hard drives. Each external card supports two hard drives and attaches to the A500 or A1000 with a system-bus extender card. Some assembly and soldering are required, and you provide the encasement. (Palomax, Inc., 424 Moreboro Rd., Hatboro, PA, 19040, 215/672-6815.) *RS# 510.*

Assemble Here, Mate!

DESIGNED FOR USE with Motorola-68000 processor technology, **Macro68** ($150), a Macro assembler, lets you convert source files for use with the latest chips such as the MC68030, MC68882, and MC68851. Features include the ability to customize directives and runtime messages from within the assembler, and a shared-code library that allows you to use preassembled include files for increased assembly speed. An ARexx interface provides a link to your favorite text editor. Output formats include executable and linkable object, binary image, symbol table, and Motorola S records. (DigiSoft, Ltd., Brisbane, Australia, 61 7 277-3255; distributed by The Puzzle Factory, Inc., PO Box 986, Veneta, OR 97487, 800/828-9952.) *RS# 511.* ►

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Public Domain Library

We are the **Offical Public Domain Library of Antic Amiga Plus**, we have been the **Offical PD library of Amiga World.** Find out why these magazines choose us! Each of our disks is packed with nothing but the best programs. The first two letters on each disk indicate the orientation of the disk; DD# intermediate to advanced - often contains source, WB# general interest - most programs can be run from the workbench, and FD# games and entertainment. Order our disk based catalog and receive a coupon for a **FREE** volume on your next purchase. We always use only SONY disks!

Featured Disk

WB12: Disk Utilities #1- This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery, archiving and organizing, and all sorts off file and directory minipulation. Greatly reduces CLI use. A real must have!

New Disks

FD37a & b:Tactical Games - Empire (2.2w) This game comes highly recommend. Now with a full featured graphic front end. Empire is a rich simulation of international politics, economics and war, which is played over a period of a few of months by 2 or more people. Players can run their countries from the normal Amiga keyboard, or via a modem at 300 to 2400 baud. Counts as two disks.
FD39a & b:Tobias Star Trek - This is a new completely, different version of Star Trek than that found on FD12. This one was created by the german author Tobias. Excellent!!! Counts as two disks. Requires 512k memory a 500, 2000 or Pal Amiga.
FD41:Games - includes Capitol Gains - an stock market game, Ball a Arknoids type of clone with many great twists, and Desert Shield a shoot'em up with a destroy and conquer theme.
WB53:Graphics- The disk contains C-light - The easiest to use raytracing we have seen to date. This one start our life as a full featured commercial product similar to Sculpt3d. Also, sMovie - a full featured video text titler similar to ProVideo, Broadcast Titler. Great video scrolling, wipes, special effects, and more...
WB54:Printing - This disk contains several routines to help with the chore of printing. Including Gothic - Finally a Banner printer for the PD, PrintStudio -a well implemented all-purpose printer-utility with a very comfortable graphic interface and many advanced features, Lila - with ease, print ASCII files to a PostScript printer, andy more.
WB55:Application - XCopyIII - a full featured disk copier, make backups of write protected disk with this one. RoadRoute - find the quickest route from one city to another, highway description included, Dairy - a diary program like "Dougy Howard M.D", Cal - a calendar program, Magman - a database tailored to maintain records on articles and publications, and more.
WB58:PageStream ClipArt - Sample images from Hi!TechNew's "Pro-Quality Collection".
WB59:Business - contains a great, very full featured stock market technical analysis and tracking program, also an appointment calendar, and more.
WB60:Animation - This disk has two outstanding "Movie" style animations, Insect jr, and Hotanim.
WB61:Intermediate Utilities - Includes programs to help to drasticly decrease flicker in interlace and hi-res modes (antiflick), an Atari-st emulator, an epromm programer, turn your amiga into an eight channel digital data analyzer or ocilloscope, and more.
WB62:Midi Utilities - Several useful midi utilities including, programs to transfer to and from several music programs to midi, a midi sysex handler, a midi recorder with timebase, display midi info, file sequence player, and a few scores.
WB63:Disk Utilities #3 - Several highly recommended programs to aid in removing duplicate files from your hard drive, performing file backups, Binary editing, fast formatting, file recovery, disk track recovery, and forced DISK VALIDATION of corrupt disks.
WB64:Amiga Vision Demo - This well done interactive presentation walks through the entire A3000 computer. Great example of the power of Amiga Vision. Useful for Amiga dealers and Amiga vision owners and programers.
WB65:Education - includes Answer me! a question and answer authoring system, Crayon a young users paint program, FastFacts a solar system educational tool, Spellmaster a spelling tutor.
DD70:Game construction/parser tool - ADL (which stands for "Adventure Definition Language") is a programming language and run-time environment designed for the convenient implementation of Adventure-like text games.

Other Great Disks -

FD5: Tactical Games - BullRun - a Civil war battle game, Metro - you play the role of a city planner. Build wisely and your system will be a success, but poor planning will lead to disaster and financial ruin. Very very habit forming.
FD6: GAMES! - This disk is chocked full of games including; Checkers, Clue, Gold - A new slide the pieces puzzle, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.
FD7: PACMAN - This disk contains several pacman type games including; PacMan87, MazMan and Zonix.
FD9: Moria -. This has great graphic controls, multiple spells, similar to Larn and Hack Play time several weeks!
FD10: HackLite - A dungeon adventure game. Considered a must have classic. This is the second release of this game on the Amiga. Great Amiga graphic interface. Play time several weeks!
FD12A,FD12B: Star Trek, The Game - This is by far the best Star Trek game ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Req. 1Mb and two drives (or hd).
FD13: Board Games - contains multiplayer Monopoly, Dominoes, Paranoids, and others.
FD14: Dungeon Master Hints and Arcade Games - DM maps, spells, item location, and hints and more, also on this disk, Hball - an arknoid/break out type game, Trix - a Qix type clone.
FD16: Strategy Games - Includes Diplomacy and Empros, both great conquer and rule multiplayer games similar in concept to Simcity and Populas. Also includes blackbox, hearts, and others.
FD17: Educational Games - This disk includes several games for the younger memebers including geography, math, science, and word games, also includes Wheel of Fortune.
FD20: Tactical Games - MechForce(3.72); A game that simulates combat between two or more giant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.
FD26:Arcade Games - Marble_slide, truly this is a commercial quality game. Similar to a Lucas game named PipeDreams, excellent playablitly and entertainment, Mutants , a small version of the arcade game of the same name, also SuperBreakout a pong/arknoids type game.
FD27: Arcade Games - This disk is loaded with some great games. Includes, Raceorama a great racing car game with ten different courses, MiniBlast a helicopter gunship type clone, Shark in the same class as froger, and SBreakout the original breakout.
FD29: Shoot'em up's - WWII - your the pilot of a world war II plane flying through enemy territory, you've just been spotted, good luck on you mission, SpKiller - try and penetrate enemy lines with this game, and Retaliator - another great game.
FD31: Games! - Air Traffic Control - a good ATC simulation game, Black Jack Lab - a full featured set of card games, ChessTel - play chess with your friend in distant and remote places with this game and a modem, labyrnth - a well done text adventure game (like an infocom game), and MouseTrap - a 3d maze game.
FD32: Game Cheats and Flight Simulator - Includes an instrument flight simulator for a DC10. Also Cheats and Hints for the following games, Earl Weaver, Falcon, It c.f.t.d., SimCity, SpaceAce, Space Quest, Test Drive hd install, and Extract a program that gets all of the text from within a game (or other) which helps cheating easier. Also several football teams (.team files).
FD33: Arcade Games - Ffreddy a mario brothers type of game, Gerbils a target practice game, PipeLine a germany interpretation of Pipe Dreams, tron a light cycles version, and wetroids a wonderful version of asteroids with a hilarious twist.
FD35 Omega (v 1.3) - A new dungeon and outdoors adventure game in a similar vain as hack, rouge, and moria. This version is considerably faster and better that all previous versions. Play time several weeks or months.
WB4:Telecommumnication - This disk contains several excellent pd communication programs designed to get you on line quickly and easily. Access (1.42) - A very nice ANSI term program based on Comm v1.34, but with the addition of transfer protocols, Comm (1.34) - Last version of one of the best public domain communications programs ever made on the Amiga, Handshake (2.12a) Handshake is a Full featured VT52/100/102/220
WB5 - Fonts #1- Several fonts (35) for the Amiga, also included are five PageStream fonts,and ShowFont - a font display program.
WB7: Clip Art - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US and State maps, and more.
WB10:Virus Killers - The latest and best VirusX(4.0), Kv(2.1), and ZeroVirus(1.3).
WB13: Printer Drivers and Generator - over 70 different drivers, and if these don't do it, with PrtDrvGen you can make your own.
WB15: Business - This disk contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).
WB16: Business - This disk contains an inventory manager, a loan analysis program, a great calendar/schedular, a rolidex program, and pennywise a good "Cash Book" accounting for home or office.
WB18: Word/Text Processors - This disk contains the best editors that we could find. Includes, WordWright(v6.2) a full featured word processor with mail merge and outlining capacity, Dme(v1.35) a great programers editor with strong macro features,TexED(v2.8) an enhanced Emacs type editor, and a spell checker.
WB20: General Interest - DiskSalv V1.42 a disk recovery program for all Amiga file system, FixDisk V1.0 another file recovery program with features DiskSalv doesn't have, 3DLookt gives a 3D appearance to your WorkBench, Clean V1.01 a program to de-fragment memory, Tracer - trace any part of that image.
WB23: Graphics and Plotting - Plot (20b) a three dimensional mathematical function plotter. Can plot any user defined function, BezSurf2 produces awesome pictures of objects one could turn on a lathe. Can also map iff image files onto any surface that it can draw. Now compatible with most 3D packages and VScreen makes a virtual screen anywhere, great for DTP .
WB25:Educational - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's data base to generate detailed maps of any enter user global coordinate. . Also Paradox a great demonstration of Albert Einstein General Theory of Relativity.
WB26: Disk Utilities #2 - MrBackup, KwickBackup - two well done utilities to help with harddisk and floppy disk backups. FileMast - a binary file editor, Lableprinter - Disk label printer with very powerful features.
WB27: Nagel - 26 Patrick Nagel pictures of beautiful women.
WB29: Graphics and Sound - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes, MandelMountains - a realistic terrain generator, Fracgen - generated recursive fractels from user input, Mandelbrot and Tmandel - two fast mandelbrot generators, also Mostra - the best IFF display program to date, will display ALL IFF's including Dynamic HAM, and Sound - a great IFF sound player, will play anything. Try this disk, you'll love it!
WB33:Circuit Board Design - several terrific routines for the electronic enthusiast, Including PCBtool - a circuit board design tool, LogicLab - circuit logic tester, and Mcad (1.26) a well done new release of this PD cad program, now comes with predrawn common circuit components for insertion into schematics.
WB34: Utilities - Several well done utilities, some will require moderate knowledge of a CLI or Shell for setup, Chatter Box - this one will play any user defined sound after any event (ie. disk insert, mouse click, disk removal...), Artm - The Amiga real time monitor, gives you full control of the Amiga OS, very powerful program, Helper - help program to make learning the CLI easier, setfont - a working version that changes the system font to user specified font, and many more.
WB36: Graphics - On this disk are several programs to create stunning graphical images including, MPath - creates swirling galaxy images, Roses - produce an unlimited number of variations of images that a symmetrically similar to a rose, SimGen - display those spectacular images as part of your workbenck screen, and RayShade - a very good raytracing program, create your own beautiful 3d graphics.
WB38: Plotting and Graphics - Plotxy is the most powerful full featured plotting package. Used by many colleges and universities. A welcome addition to our library! Highly recommended. Plans - a incredibly well done Computer Aided Drafting program, very full featured. Tesselator - a program that helps generates fantastic looking, recursive M.C. Ecsher type pictures.
WB39: Music - Intuitracker is an german offer of an exquisitely well done program that allows you to play Amiga music as if from a CD like controls. Lets you strip out music from your favorite games or others and include them in your music library.
WB40: Music - "CD on a disk", 90 minutes of modern music on this well presented collection.
WB41: Music - MED an incredibly well done, full featured music editor. Create your own stunning music directly on your the Amiga. Similar to SoundTracker but better. Very powerful easy to use program.
DD47: Pascal - This disk contains everything needed to program in pascal. Includes, A68k (1.2) 68000 assembler, Blink linking software and PCQ (1.0) a modest Pascal sub-set compiler.
DD49: C Compiler - contains zc(1.01) fully K&R, zcc(1.0) front end, A68k(1.2) assembler, Blink linker.
DD51: Circuit Analysis - Aspice (2.3) A full featured program for electric circuit analysis.
DD54: Compression - This disk is loaded with ALL of the best file compression programs and aids for the Amiga. Many of the programs can be used by the new user. Includes Arc(2.3), Lharc(1.0), Lhwarp(1.03), Pkax(1.0), PowerPacker(2.3a) a must have by all, Zip(1.0), Warp(2.04), and Zoo(2.0). Also IFFcrunch an excelent compression for IFF files.
DD55: ARP - On this disk you will find the complete ArpRel3.0 release including the full user docs, the full Developers guide, and Conman (1.4). ARP is the official AmigaDOS Resource Project (ARP) release 1.3. ARP makes many improvements to AmigaDOS and makes your system easier to use from the CLI.
DD57: Advanced Utilities - Msh - like Cross-dos, copies files to and from MS-DOS, Pal-NTSC - convert any pal program to NTSC and visa versa, Also several utilities that improve your startup-sequence, plus 25 more programs.
DD62: Basic and Xscheme - Cursor - a full featured Amiga Basic compiler, sbasic and ftext - several wonderful routines to help in basic programers, and Xscheme - an interpreted object oriented programing language.
DD65 C Tutorials - Several well done tutorials on how to program the Amiga. Includes tutorials and working examples on Device drivers, IFF reads and writes, Sound implementation, Arcade game design and implementation, Double Buffering, and others. A must have for Amiga Programers.

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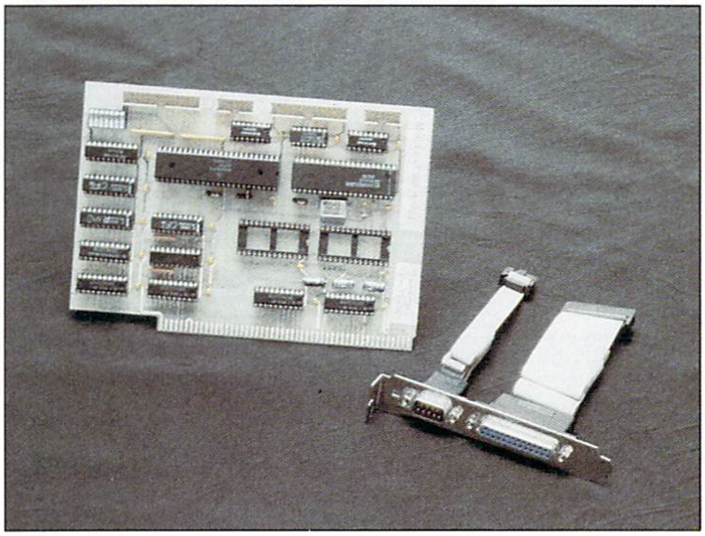
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INCREASE YOUR I/O options with **MultiFaceCard** ($349), an external parallel- and serial-port expander. It gives your A2000 or A3000 simultaneous output from any port, a parallel-interface timer, and a dual-asynchronous receiver/transmitter. (Pre'spect Technics, PO Box 670, Station H, Montreal, Que., Canada H3G 2M6, 514/954-1483.) *RS# 506.*



MultiFaceCard expands your possibilities no end.

He's Mean and He's Mad

IF YOU CAN make it through leagues of caves, swamps, temples, and castles, you can undertake to challenge the big "D" himself in **Wrath of the Demon** ($49.95).

Your success reaps not only restored honor for your king, but freedom for the lovely princess, as well. (ReadySoft, 30 Wertheim Court, Unit 2, Richmond Hill, Ont., Canada L4B 1B9, 416/731-4175.) *RS# 507.*



Wrath of the Demon pits you against fearful obstacles in your quest to free the princess.

Give Me Speed . . .Hold the Cheese

YOU SAY IT took a week to render that ray tracing of Jupiter? And you routinely polish off a large pepperoni pizza while your A500 loads Workbench?

Adspeed ($349), a 14.3 Mhz, 68000 accelerator card, allows applications and programs to run up to twice their normal speed, according to ICD. Plug AdSpeed into the CPU socket and the card's 16K static-RAM cache provides zero wait-state program execution. (ICD, Inc., 1220 Rock St., Rockford, IL 61101, 815/968-2228.) *RS# 509.*

It Is Written

THE DEPTH OF the castle's evil has gone unplumbed far too long—nearly 120 years—and an object capable of causing great misfortune, a pernicious pen, is still at large. In **Bane of the Cosmic Forge** ($59.95), your quest is to search the castle, assisted by characters you empower with special skills, until you discover a mysterious power for good. By caring for your crew—seeing that they rest and take nourishment—you build their stamina as various events and encounters tax their reserves. Magic, mayhem, and unexpected help await. (Sir-tech Software, Charlestown-Ogdensburg Mall, PO Box 245, Ogdensburg, NY 13669, 315/393-6451.) *RS# 513.*

And Then Some

A SUPPLE WRIST is not as important as index-finger dexterity when you play **Power Pinball** ($39.95). Just drop your simulated coins into the slots, pull back the plunger, hit the right Amiga key and launch the ball into a bell-ringing, bumper-banging soujourn around the table. Control your flippers with your left- and right-Amiga keys. Power Pinball comes with a design of its own, but you can construct your own game by importing IFF graphics and sounds. (KarmaSoft, PO Box 1034, Golden, CO 80402, 303/277-1241.) *RS# 514.*

If you use CanDo to produce your multimedia presentations, **CanDo Pro Pak 1** ($39.95) can help you get more out of the program. The Pro Pak comes with ready-to-use applications, utilities, CanDo-generated games, and a paint program. The **CanDo Intro Pak** ($39.95), a tutorial-intensive guide to learning the ins and outs of CanDo, includes seven applications plus a manual that walks you through step-by-step descriptions of how they were created. (INOVAtronics, 8499 Greenville Ave., Suite 209B, Dallas, TX 75231, 214/340-4991.) *RS# 515.*

The recently refurbished pressure-sensitive graphics tablet, **Easyl 1.3** ($349) offers increased speed and automatic adjustment to either NTSC or PAL modes, as well as Overscan and AmigaDOS 2.0 support. Current Easyl owners can upgrade for $24.95. (Anakin Research Inc., 100 Westmore Dr., Unit 11C, Rexdale, Ont. Canada M9V 5C3, 416/744-4246.) *RS# 516.*

Do you often leave your Amiga unattended? The **System Integrator** ($274) monitors system events and detects errors before they can lock up or crash your computer. If an error is found, System Integrator's hardware and software resets your Amiga and logs it in. (Pro-Tronic Systems, 720 Sixth St., Suite #227, New Westminster, B.C. Canada V3L 3C5.) *RS# 517.*

Your child can learn the alphabet by fishing for letters, "eating" alphabet soup, and playing beat the clock. **ABCgames** ($30) teaches letters through a five-level series of games that familiarizes children with keyboards and mice. (Parth Galen, 6281 Trotter Rd., Clarksville, MD 21029, 301/531-3527.) *RS# 518.*

The programmers and engineers at Interactive MicroSystems have been busy preparing a new line of video interface components: The **MediaPhile MP2.0A Infrared Controller** ($295) controls infrared-controlled devices and provides two Sony S-port outputs and one universal infrared output.

The **MediaBase Program Disk** ($195) provides interactive access to presentations created with the **MediaProcessor Program Disk** ($195), a post-production, edit-decision list pro-

gram that controls video decks, camcorders, and genlocks.

You can operate video equipment via C or BASIC programs with the **Programmer's Toolkit** ($195), which includes linking libraries and bitmap files.

The ARexx-compatible **Media-Servers Program Disk** ($195) links interactive-presentation and database programs with video equipment.

You can bring video-tape counter information from a variety of devices with one of Interactive MicroSystem's new controllers: **MediaPhile 2.0P Universal Tape Deck Interface Controller** ($159), the **MediaPhile 2.0M Sony 8mm Video Interface Controller** ($139), and the **MediaPhile 2.0S Sony CTL-L Port Interface Controller** ($195). (Interactive MicroSystems, 9 Red Roof Lane, Salem, NH 03079, 603/898-3545.) *RS# 519.*

Do you periodically forget the names you've given your image files? **Image-Finder** ($65) lets you scan a visual index of all your images stored on disk. ImageFinder creates sort criteria to help you locate images by size and depth, color, and density. (Zardoz Software, 6114 LaSalle Ave., Suite 304, Oakland, CA 94611, 415/339-6280.) *RS# 520.*

Good things really can come in small packages: You can get a hard-disk system in the configuration of your choice, with up to 8MB of Fast RAM installed, all in one small box. The **500XP** hard drive with autobooting SCSI interface comes formatted and ready to use. The drive's external SCSI port allows up to seven-SCSI devices. You also get a game switch that lets you turn the drive off without disabling RAM. Prices begin at $679 for a 20MB drive with $^1/_2$MB of RAM installed. (Supra, 1133 Commercial Way, Albany, OR 97321, 503/967-9075.) *RS# 521.*

A flurry of activity at MicroIllusions produced **Music X 1.1** ($299.95), and **Music X Jr.** ($149.95), an upgrade and a consumer version of its well-known sequencer. The scaled-down version features the engine of the major package, but without the extras the professional requires. Music X 1.1 features event sculpting, velocity flattening, view controllers and channel locking, and it increases the package's multiserial capabilities.

An upgrade to the MicroIllusions educational game, **Discovery 2.0** ($39.95), features expanded question types, and five new ships explore and save.

You can create scenery and then fly through it with **GENESIS the Third Day** ($149.95), a fractal-landscape generator with animation capabilities. GENESIS supports ARexx and lets you create geographical locations throughout the Universe. (MicroIllusions, PO Box 3475, Granada Hills, CA 91394, 818/787-7345.) *RS# 522.*

For Amigas on the go, **Left Hemisphere Carrying Cases** let you keep your investment by your side. The A500 bag ($89.95) houses your CPU, power supply, mouse, and two slim, floppy drives or one hard-disk drive. There's also room for paper, mouse pad, pens, floppy disks, or your favorite magazine. The monitor bag loosely holds a Commodore A1084 or more snugly, an A1950. (Left Hemisphere, N. 1825 Ash St., Spokane, WA 99205, 509/325-0115.) *RS# 523.*

Explore Australia's national parks, minerals, climate, and wildlife without leaving home with **Australian Graphic Atlas** ($69.95). With it, you can watch a slide show, get population statistics with layouts of capital cities, and view single or multiple maps. Each map is IFF compatible, so you can use them in paint programs or desktop publishing. (HC Software, GPO Box 2204, Adelaide, S. Australia 5001.) *RS# 524.*

Desktop Publishers, you can stop stamping your feet and let out your breath: **Pro Page 2.0** ($395) features style tagging, multipage preview mode, allows 1000 colors on screen at once, supports 24-bit color files, and rotates text and graphics. Pro Page 2.0 comes with a built-in word processor and dictionary. (Gold Disk, 5155 Spectrum Way, Unit 5, Mississauga, Ont., Canada L4W 5A1, 800/387-8192 [from within the US] or 416/602-4001.) *RS# 525.*

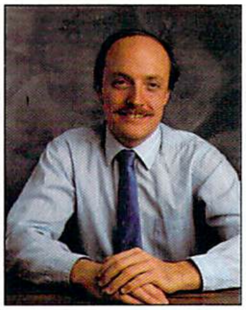
Here's a prospective gem. The **Sapphire A 68020/68881 Accelerator** ($399) promises to increase operation speeds with software that enables the 68020-cpu cache capability. This $3^1/_8 \times 4^1/_4 \times {}^1/_2$-inch board plugs into the cpu socket (sans 68000 chip) making it compatible with any Amiga. (TTR Development, 1120 Gammon Lane, Madison, WI 53719, 608/277-8071.) *RS# 526.*

Would you like to add 2MB of RAM to your BASEboard? The **XRAMboard** ($139.95) daughterboard, which comes with 512K installed and sockets for up to 2MB, can do the trick. The board's four-layer construction makes it compatible with any DRAM, according to the manufacturer.

For $99, you can buy an autoboot SCSI interface for your A2000 that's compatible with most hard drives. The **DataFlyer** is non-DMA, and comes with an optional 4 or 8MB plug-on memory board. (Expansion Systems, 44862 Osgood Rd., Fremont, CA 94539, 415/656-2890.) *RS# 527.* ■

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THE  PD PROSPECTOR

Venture on down the trail to where

the good games abound.

Compiled by Tim Walsh

This month we'll look at some of the most popular games available on the networks, with file numbers and library locations.

People/Link

LOTTO-WORKS.LZH (AmigaZone Section 10, file #24710) Lotto-Works shareware. Lottery-winning program.

SPADES.LZH (AmigaZone Section 10, file #24689) Spades card game, where you play against three computerized opponents. Freely distributable.

TOBIAS-TREK.(1-1,1-2,2-1,2-2)WRP (AmigaZone Section 10, file #s 24631–24634) An entirely new version of Star Trek composed of four files. Documentation in German; prompts in English.

SIMPSONS-GAME.LZH (AmigaZone Section 10, file #23793) Get into trouble with Bart. Lots of action and excitement.

When asked point-blank for his favorites, PLink's Amiga Zone Chairman Harv Laser seems to favor the antics of Bart in the Simpsons Game over most of the others.

CompuServe

SYS.LZH (Library 2, AmigaArts) Fast-paced arcade game, where you zoom around the screen chasing and killing disk viruses.

SA265.LZH (Library 2, AmigaArts) Don't let its nondescript filename fool you. It's version 2.65 of Streets & Alleys solitaire.

RAPS.LZH (Library 2, AmigaArts) Opens a small window on your Workbench, where you can play this tiny, checkers-like game.

CITY.LZH (Library 2, AmigaArts) Blast away at with two guns (left and right mouse buttons) at attacking aliens. The epitome of mindless fun.

CompuServe's assistant sysop for the Amiga Forums, Betty Clay, also recommends Wheel of Fortune (WHEEL.LZH) and Welltrix (WELLTR.LZH), both of which reside in AmigaArts Library 2.

GEnie

MINIMAZEV2.ZIP (Amiga Library 9, file #9115) Places a small, mouse-driven maze on the Workbench screen.

KIDSGAMES.ZIP (Amiga Library 9, file #9098) Two golden oldies, Concentration and Towers, constitute this 17K file.

DESERTSHIELD.LZH (Amiga Library 9, file #9083) Pilot a state-of-the-art fighter jet over the Saudi desert sands.

HIGHWAYPATROL.LZH (Amiga Library 9, file #9041) A fast-paced shoot-em-up that lives up to its name. Shoot everything that moves and everything that doesn't.

After hours of playing Mini Maze (MINIMAZEV2.ZIP), I found it to be one of those rare, challenging games that can remain on the Workbench screen. Includes a nice maze editor for designing your own. Good entertainment for long downloads.

Prospector's Perch: The prospector looks at games.

FROM SHOOT-'EM-UPS TO strategy games, the networks offer plenty in the way of entertainment software. Like most computer veterans, I favor the capturing of utilities and applications as the best way to spend quality time on the networks, but I've been known to download a game or two, all in the name of broadening my editorial horizons, and I find it's usually well worth the time and trouble.

Downloading public domain and shareware games certainly offers advantages. The price is right, at least when compared with paying big bucks for a commercial game. Furthermore, worries about infecting your hard disk with a troublesome virus is practically nil, since the games are reviewed and approved by experienced sysops before being made available to the public.

As always, if a game is listed on one network where you don't have an account, you can use another network's keyword search to try to find it. For instance, SPADES.LZH on PLink is available in CompuServe's AmigaArts Library 9 as SPADES.ZOO. Eventually, nearly all of the files make their way to all of the networks. If a game or other file is not on your network, check out the Fred Fish disk collection and other sources of freely distributable software.

When downloading games, be aware that some of them are European imports of questionable origin. You may find the documentation in some language other than English. Some use the European PAL (Phase Alternation Line) video display, rather than the North American NTSC (National Television Standards Committee) video, thus chopping off the bottom portion of the screen. I encourage everyone with network accounts to check out at least some of these exceptional games.

If you want to establish an account with any of the above networks, here are the voice numbers to call:

CompuServe: 800/848-8199
614/457-8650 from within Ohio
American People/Link: 800/524-0100
GEnie: 800/638-9636

For those without modems or network accounts, send an SASE and $1 to Fred Fish to find out the availability of the above PD programs on disk. Address correspondence to:

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Stay tuned for the next exciting installment of The PD Prospector! ■

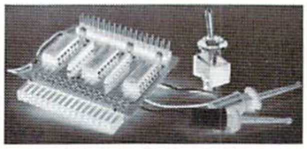
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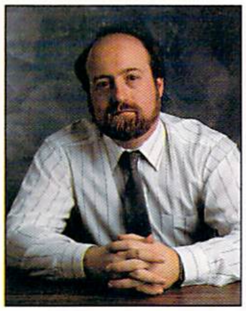


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HELP KEY

Lou solves the puzzles of the CPU-hogging loop and the HD floppy drives.

By Louis R. Wallace

Pesky Pause(0)

Q: *I am a BASIC programmer and in my quest for the perfect routine to pause a program's execution and receive a keypress (via INKEY$) or a mouse click (via MOUSE), I wrote the following sub-program:*

```
' Original Pause Routine
CALL Pause(0)
END

SUB Pause (seconds!) STATIC
SHARED ps$
IF seconds!=0 THEN
  WHILE MOUSE(0)<>0:WEND
  WHILE INKEY$<>" ":WEND
  p:
  ps$=UCASE$(INKEY$)
  IF ps$=" " AND MOUSE(0)=0 GOTO p
ELSE
  timeNow&=TIMER
  WHILE TIMER<(timeNow&+seconds!):WEND
END IF
END SUB
```

If I pass a positive, nonzero value with Pause, the program pauses for the specified number of seconds. If I call it with zero [CALL Pause(0)], the program waits until I either press a key or click the left mouse button. The pressed key is stored in ps$ and returned to the main program.

This routine works quite well, except for one glaring flaw. When Pause(0) is called, the p:... GO TO p line in the routine puts the program into a very tight loop that eats up CPU time like crazy—a very bad programming practice in a multitasking environment.

I have tried a number of other techniques to get around this problem, but so far with no success. Are you aware of any way to accomplish the function of the routine without *eating up the computer's CPU time?*

Robert Bromley
Malton, Ont., Canada

A: First let me say that I was quite impressed with your routine. It does exactly what you want and does it well. The problem lies in the fact that AmigaBasic does not have an On Key command, which would have taken care of the busy wait problem. So your loop sits there and chews up significant amounts of the computer's power.

After thinking about it for a while, I had one of my irregular bursts of brilliance and called Commodore's AmigaBasic expert, Carolyn Scheppner, who suggested using the WaitTOF( ) function in the Graphics Library. WaitTOF stands for Wait 'til Top Of Frame. When called, it waits until the video beam reaches the top of the screen and completes the vertical blanking sequence. It also waits until any routines that execute in the vertical blanking interval are complete.

Because the vertical blank occurs 60 times a second, the WaitTOF will wait $^1/_{60}$ of a second. By placing one or more of these in your Pause loop, you can decrease the number of times the keyboard and mouse are polled, which will lessen the strain on the CPU during your loop. If you call the WaitTOF function once within your loop, your p:... GO TO p routine can run, at most, only 60 times per second. If you call it twice in a row, the loop will run only 30 times.

I made some slight modifications to your program to incorporate the WaitTOF routine. First I opened the graphics library using the Library command. Then I added a simple loop to call WaitTOF six times inside the p:... GO TO p loop. This causes the loop to run at most 10 times per second, greatly reducing the CPU strain. Checking once every tenth of a second should be enough, but you can alter the frequency by increasing or decreasing the length of the WaitTOF For...Next loop. The result should not hog the CPU.

```
' Modified Pause
' using WaitTOF graphic function
' to monitor ten times a second.
LIBRARY "graphics.library"
n=0
CALL Pause(0)
END

SUB Pause (seconds!) STATIC
SHARED ps$
IF seconds!=0 THEN
  WHILE MOUSE(0)<>0:WEND
  WHILE INKEY$<>" ":WEND
  p:
  FOR ii=1 TO 6
  CALL WaitTOF&
  NEXT ii
  ps$=UCASE$(INKEY$)
  IF ps$=" " AND MOUSE(0)=0 GOTO p
ELSE
  TimeNow&=TIMER
  WHILE TIMER<(TimeNow&+seconds!):WEND
END IF
END SUB
```

HD Floppy as DF0:?

Q: *I was looking at the ads for Applied Engineering's High Density floppy drives and wondered if it is possible to install one as DF0: in an Amiga 2000 or 3000. If it is, could I boot with the HD floppy?*

Shawn Wyatt
Smyrna, Delaware

A: Applied informs me that at this time their High Density drive is for external use only. They do plan on internal versions, but wouldn't commit to any specific date for a release. They did tell me, however, that they're now including a Workbench 2.0 driver with their HD floppy, so users of the new Amiga operating system can make use of the increased floppy storage. ■

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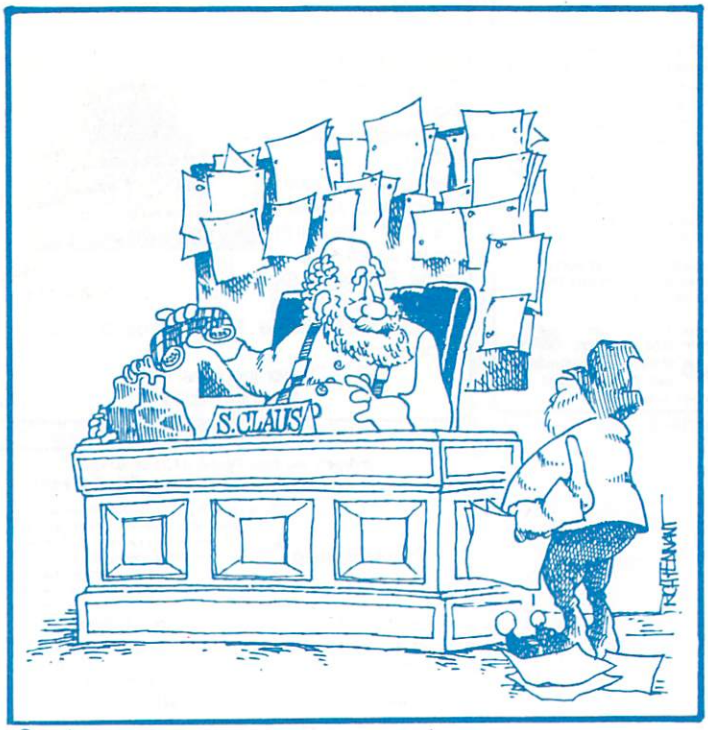
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InfoMarket

LAST LICKS



DON'T WORRY, WE'LL HAVE ENOUGH AMIGAS FOR CHRISTMAS. I TOLD THEM WE WERE M.I.T."

'NotherWorld Expo

IN AN EFFORT to spread the Amiga word to the rest of the world, a group of Amiga enthusiasts recently bought some space in the cargo bay of the space shuttle "Spitball" and launched a show. Yours truly was lucky enough to be chosen to report on this first-ever orbiting Amiga show.

Appropriately enough, the first thing I saw was Really Virtual's booth and a demo of the company's ever-popular educational program, **Really Really Far Away Suns**. In this version, you can click on a star and not only get its name, approximate distance, and coordinates, but also its star-tan factor rating. A company representative said that the long-awaited **Pretty Close Planets** and **Asteroids In Your Neighborhood** are currently in production.

Next, a drift over to the Electronic Parts booth brought me face-to-face with **Deluxe Instant Video Paint Construction Music**, a do-it-yourself music-video program. Just select a musician from the menu and one or more instruments from the rather large assortment, and key in a song title. (You can even click on his foot to make his toe start tapping.) Add singers, dancers, and special effects, and you've got your finished product. After playing around with it for a while, I got a pretty decent rendition of "Panama," by Van Halen, performed by a screen full of little guys with bagpipes doing the moonwalk. Pretty amazing product.

NewSpec had a booth, and as usual it was packed. It was floating room only as they demonstrated their products. NewSpec, if you recall, brought us **DigiPhew!**, the first software to stimulate your senses with its unique scratch and sniff interface. NewSpec appropriately chose this show to debut the long-awaited **VideoPoster**, a wafer-thin computer monitor that you can hang on the wall. People were snapping these up left and right...it'll sure save on desk space!

Several hardware manufacturers on hand were involved in a contest to see who had the fastest accelerator board. When they booted their machines, every one of them was launched through the open cargo-bay doors with such force that they hurtled off into space. If you happen to be hit by one or more of these spacey CPUs, please try to determine how fast it was going when it struck—we're still trying to figure out who won.

—Steve Pietrowicz

Ear to the Wall

Pre-birth update. Our sources say that although some of Commodore's CDTV units will ship before the end of 1990, it's really beginning to look like a 1991 product. Commodore only plans limited test marketing this Christmas.

You could win! Commodore's **AmigaVision Script Contest** is your opportunity to flaunt your creativity. To enter, develop a 15- to 30-minute script in one curricular area (math, science, English, social studies/history, art, music) using AmigaVision. When it's finished, just port your script to videotape and submit it with a one-page lesson plan describing how your script would work in a classroom. Send in your entries *before January 15, 1991* to Commodore Business Machines, AmigaVision Contest, Education Dept., 1200 Wilson Dr., West Chester, PA 19380. Prizes to be awarded include three A3000/25-40s as first prizes, three A2000HDs as second prizes, and three A500s as third prizes. Questions should be directed to Susan Bengough, Commodore's education marketing specialist for grades K–12, at 215/431/9100.

Or try this one. Gamesters might be interested in Spectrum HoloByte's sweepstakes. You can find official entry forms at participating software retailers and in specially marked Spectrum HoloByte games. The promotion starts November 1, and the drawing will be held in early March, 1991. Prizes include a three-day course at the Jim Russell Racing Driver School at the Laguna Seca Raceway in Salinas, CA, plus a week for two in Monterey; a half-day class at the nation's only civilian Top Gun school, Air Combat USA, in Fullerton, CA, plus a seven-day trip for two to southern California; and a ten-day tour for two to the Soviet Union. (Spectrum HoloByte, 2061 Challenger Dr., Alameda, CA 94501, 415/522-3584.)

Middle East note. Ironically, a little more than a year ago, Commodore Electronics Ltd. participated in the Peace and Friendship Games in Kuwait. Over 40 Islamic countries took part in the games, during which an A2500 controlled the stadium's video scoreboard.

***Uh-Oh, Mac emulators*...** According to the September 24th issue of *InfoWorld*, Apple Computers stopped selling Mac ROMs for general consumption since "too many were ending up in Mac emulators."

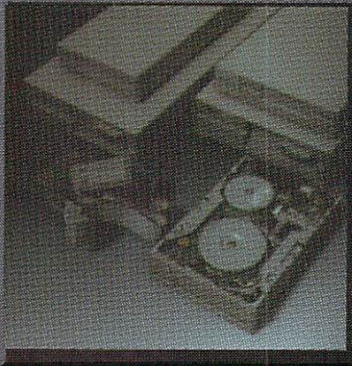
***Big Bad* Byte.** The word on the streets here in Peterborough, NH, (where *Byte Magazine* is located) is that *Byte* is upping its Amiga coverage. Hmmmm...

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A Graphic Demonstration



Deluxe Paint III
has 32 colors* and costs $149.95.

Digi-Paint 3
gives you 4096 colors and costs $99.95.

Get the picture?

Which one of the artistic tools pictured here would a child choose? The answer is obvious, the more colors the better. The choice is just as easy when it comes to Amiga paint programs. Digi-Paint 3 works in the Amiga's powerful Hold-And-Modify (HAM) mode which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 32 colors*. What does this mean to your Amiga art? Simply put, the program with more colors makes the better pictures. But that's just one of the reasons Digi-Paint 3 is the ultimate paint program.

Other advanced features found in Digi-Paint 3:

- 14 drawing modes including colorizing, range painting, and texture mapping
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AmigaWorld magazine recently compared the leading paint programs in a head-to-head showdown. A clear winner emerged: **"Digi-Paint 3 is the one to beat for speed, versatility and professional applications."** After six pages of detailed evaluations they concluded with, **"If you are really serious about owning only one paint program, we would have to recommend Digi-Paint 3."**



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*In some modes an additional 32 half-intensity shades are available.

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